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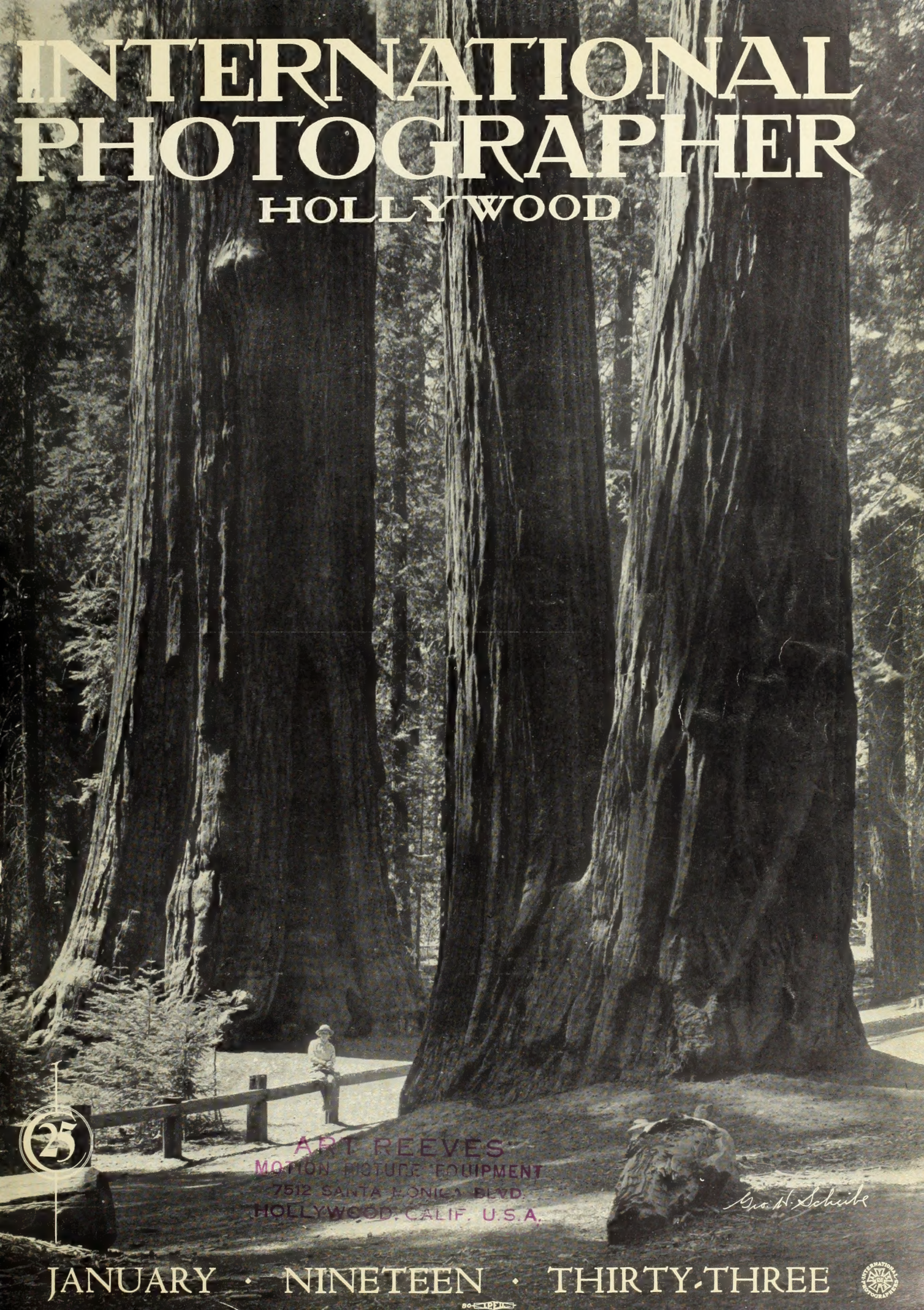
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ART REEVES  
MOTION PICTURE EQUIPMENT  
7512 SANTA MONICA BLVD.  
HOLLYWOOD, CALIF. U.S.A.









# INTERNATIONAL PHOTOGRAPHER HOLLYWOOD

25

ART REEVES  
MOTION PICTURE EQUIPMENT  
7512 SANTA MONICA BLVD.  
HOLLYWOOD, CALIF. U.S.A.

*Geo. W. Schulte*

JANUARY · NINETEEN · THIRTY-THREE





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Prosperous  
New Year



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# The INTERNATIONAL PHOTOGRAPHER

*Official Bulletin of the International Photographers of the Motion Picture Industries, Local No. 659, of the International Alliance of Theatrical Stage Employes and Moving Picture Machine Operators of the United States and Canada.*



*Affiliated with  
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*"Capital is the fruit of labor, and could not exist if labor had not first existed. Labor, therefore, deserves much the higher consideration." — Abraham Lincoln.*

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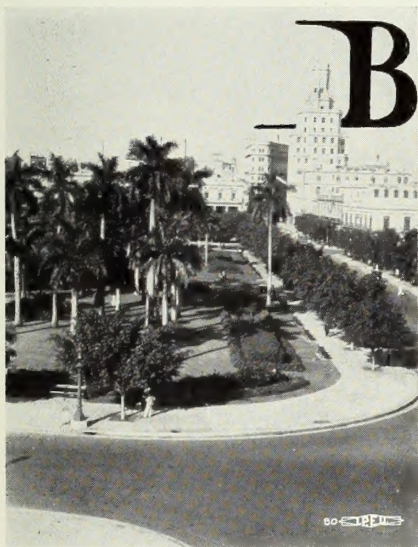


# When Drama Rides in Hungry Eyes

Describing Havana Parichy Tells How Mothers  
Without Rings Pathetically Seek Familiar  
Features in Beneficencia's Orphans

By ESSELLE PARICHY

Staff Correspondent International Photographer  
With his own Leica illustrations



**B**OLDLY engraved in the annals of Cuban history are the epochal years since her discovery more than four centuries ago, when Columbus landed an impatient crew from the Santa Maria in the harbor of Baracoa.

This island was one of the richest gems for the crown of the Catholic king of Spain, when all the sovereigns reached out talons to grasp the silvertine, raw riches of possession in the New World.

Cuba's early colonization marched hectically in a hodge-podge fashion under the cloth of civilization, baptized in blood and wisdom . . . cankered by every swashbuckling pirate and

free booter of the seven seas, who despite the gallant defense of her early settlers.

In 1898 Cuba won liberty from Spain, loosing the last shackles in the Americas of Spanish domination.

The die of a great republic was cast in these turbulent years during the fanfare of anti-Spanish and piratical conquest, and Cuba's star was in the as-

endant till today she stands majestically serene, the most outstanding nation of the West Indies.

Closely bound with her holocaust of bloody history are the aged and hoary forts and strongholds that today are in a remark-

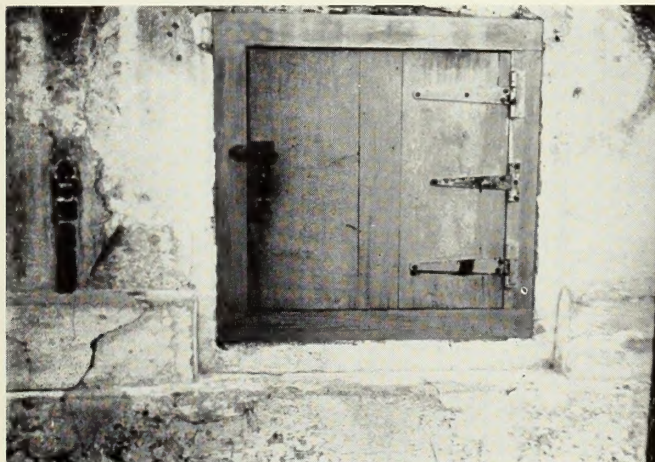
able state of preservation. The oldest of these forts is La Fuerza, built in 1538 by Hernando de Soto to combat the inroads of piracy in Havana. The fort has a fine tower to strike the hour and relay signals from El Morro across the harbor.

## Fort of Four Centuries

El Morro, guarding the harbor entrance, was built in 1597. It stands on a high rocky bluff overlooking the city, with its beacon lighthouse, watch-towers, and deep moat. Little has it changed since the inquisition of foreign dominance, and its dark, dank tunnels and dungeons whisper and echo the tragic terror of Cuban patriots incarcerated and slaughtered for their convictions of independence.

As I stood peering down the stone shoot that is called El Nido de Tiburones I could see the gray shadows of the man-eating descendants whose forbears had claimed the executed prisoners thrown through this shark's nest.

As I walked through the bomb-proof dungeons with gated apertures, I could discern stalactites of lime caused by centuries of damp erosion, and as I listened in the crashing silence I heard the melancholy dripping of water that seemed to synchronise with the trage-



Left, door of the three hinges, Faith, Hope and Charity, behind which awaits a Sister of Mercy to receive the foundling passed through its portals. Right, a new arrival held in the arms of a "Goddess of Mercy"





*Remains of the "Twelve Apostles" on the rampart of old El Morro (left); patient oxen drowse in the hot sun.*

dies that had been enacted within these walls.

### Famous Old Cabana

The stalactites cast grewsome shadows in the deep recesses like phantom claws to menace and recreate the horrors of the past.

On the main rampart are the twelve bronze cannons known as the "Twelve Apostles," once harbingers of death to the filibuster vermin who manned the ships that carried the black flag and crossbones.

Like a blow from Mars they dealt grim destruction, recording many a nautical defeat for these devil sea rovers who were so strong in evil and therefore so much needed recreating.

Among other strongholds ripe in tradition is La Cabana Fortress, adjoining El Morro, and it is from here that you still hear the 9 o'clock cannon salute which once marked the hour to clear the streets of every one except Spanish soldiers, and the hour when the huge iron chain was strung across the harbor to prevent the passage of ships at night.

Peace after strife reposes here in lethargy among the aged and mossy battlements and cannon of the old regime.

\* \* \*

"The quality of mercy is not strained"... in Havana. Here the poor and unfortunate are well provided for by charitable clubs and public sentiment which is ever ready with a helping hand... also the Govern-

ment Lottery plays an important part.

Every one plays the lottery in Cuba and why not? It is gambling for a worthy cause. Every week there is a drawing of the National Lottery which fills the coffers of the charitable institutions.

El primer premio is \$50,000 and the total distribution of prizes is \$91,000 each week, with a grand prize at the Christmas holidays of a half million dollars. One can readily see when a portion of these funds is used for charity the result is commendable.

### No Questions Asked

To me one of the most interesting institutions of Havana was La Beneficencia orphan home, founded by Bishop Baldez in 1794. The unusualness of this place is the method they have of receiving the babies.

Opening a door in the wall from the street, one finds a revolving receptacle of three compartments, that rings a bell when the weight of the infant child is put upon it, and from within a waiting Sister of Mercy receives the unfortunate waif.

These infants are cared for until they reach the age of twenty-one, with a trade learned to face an intolerant world.

As I watched the kind-visaged Sister of Mercy with the babies hovering about her skirts like a brood of chicks in the fluff of mother feathers it was plain to be seen these children were receiving loving kindness and care

from the hearts of these sisters grown old in duty and service.

At the present time seven hundred children are within the portals of this door of Destiny to receive the Milk of Human Kindness denied them by their own mothers through misfortune and circumstances unknown.

### Deeper Than Drama

Under the cover of darkness one can picture the desperate drama as it unfolds itself with the unfortunate mother opening the crude wooden door of the three hinges, that I call Faith, Hope and Charity. Tearing from her bosom the velvet cords of motherhood, she places her babe in the sanctum of sanctums that revolves slowly from her sight and hand leaving an empty void.

In a glass case hangs many a gold and silver chain suspending half an amulet, the other precious half having been retained by the mother against the years in dreams of reclamation. . . . What stories these mutilated amulets could tell! . . . They seem to symbolize the half-lives of these waifs of God's Acres.

Who knows . . . within the visiting hours there must be eyes that peer hungrily into each little face, trying to pierce through the veil of months . . . years . . . with an unerring sense emanating from the severed bond of a bleeding heart.

Though the mills of God grind slowly, Yet they grind exceeding small.



# Develop Sound Recording Camera

Rico Engineers Produce Device Designed for Major as Well as Independent Studios—  
New Sprocket Tooth Arrangement

WITH a revolutionary step forward in the independent field, Rico engineers have perfected a sound recording camera which is being offered to major producers as well as independents.

Many original design features are incorporated in this product which is expected to fill a requirement of the industry for a compact, light and efficient recorder.

To insure perfect film motion the design of this camera is the ultimate within the limits of mechanical perfection. A 32-tooth pull down and feed sprocket passes the film in free loops to the 64-tooth recording drum, over well-designed strippers.

Realizing that a recording drum without sprocket teeth would be ideal but would present the problem of slippage on its smooth surface, Rico engineers have designed a new sprocket tooth, these being placed only on one side of the recording drum away from the sound track, eliminating this difficulty.

Smooth motion is imparted to the recording drum by an especially heavy flywheel, carefully balanced and driven by means of a damped dynamic spring filter arrangement. All machine tolerances are maintained at less than two-tenths of a thousandth of an inch. Bearings and moving parts are amply designed for long life. Lubrication is simple and perfect.

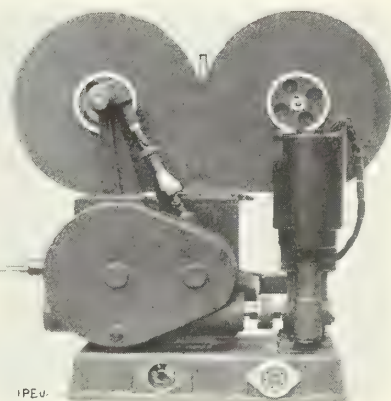
All magazine takeup belts have been

eliminated by a clever shaft and clutch drive to the takeup spindle. Adaptor plates make possible the use of Bell and Howell or Mitchell magazines. Facilitating use with any existing system, the motor drive mounting is designed to take a standard camera motor, at standard rotation direction and speed. This camera may be furnished with accessory equipment for glow lamp, light valve or galvanometer recording.

A. A. Gonzaga, owner of Cinedia Studios, Rio de Janeiro, Brazil, recently left the United States after a nation-wide study of sound production technique and recording equipment. Prior to his departure Mr. Gonzaga purchased a Rico trunk channel sound unit, the first of several of these successful studio recorders to be used in the ambitious program of Cinedia Studios.

With a Rico trunk channel recording unit as baggage, Harry Blanchard, well known Hollywood sound engineer, sailed for Manila aboard the steamer Greystoke Castle. Tait Productions of Manila are assured of the "Finest in Sound" under the capable supervision of Mr. Blanchard.

J. P. Muller, cinematographer and director of the War Department feature production dealing with the transportation problems of the Mississippi Valley, being especially made for showing at the coming World's Fair at Chicago, reports continued success under difficult operating con-



Back view of new Rico recorder

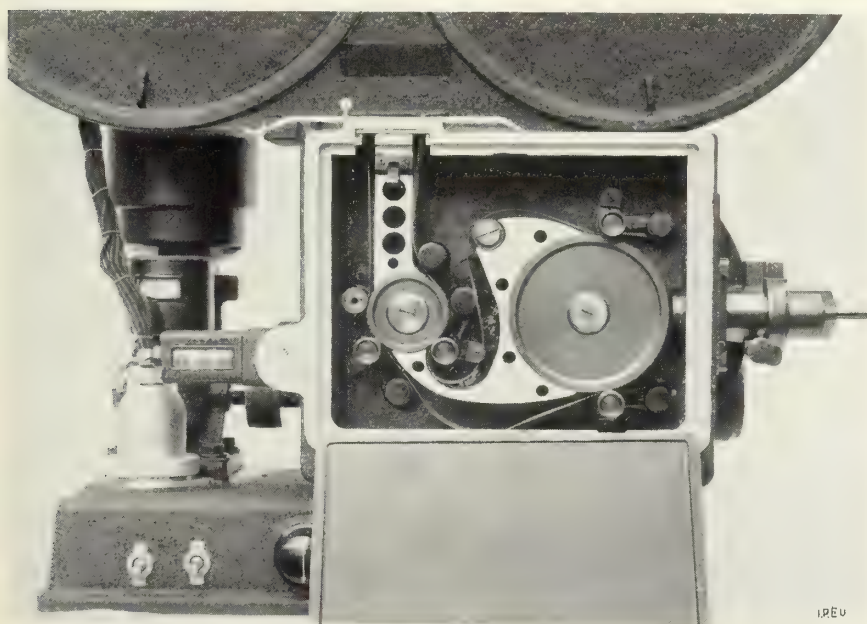
ditions with his Rico trunk channel unit.

Carlton W. Faulkner, engineer, has just returned from India, where he supervised the installation of further Rico sound equipment. He reports senior and junior units operating in major Indian studios.

Producers anxiously are watching the rising British pound with the promise of further equipment orders upon a more favorable exchange.

Overcoming the problems brought about by the Japanese invasion, China again is looking forward to the start of intensive production of native talking pictures, and Rico is preparing to send engineers to instruct the Chinese technicians in modern sound methods using its equipment.

To facilitate an intensive development program, the Company's sales office has been removed from the laboratory building and is now at 6067 Santa Monica Boulevard.



New Rico studio recorder

## Victor's Model 10 Regular Heads New Projector Line

THE Victor Animatograph is featuring a new line of projectors consisting of three highly improved models. Taking the place of the previous Models 3 and 7 is the Model 10 regular. The latter is supplied with the 400 Watt 110, 115 or 120 volt lamp, but may also be used with 200 and 300 watt lamps if desired.

All of the Victor features have been retained in the new models. Outstanding among the improvements of the 10 regular are a new cool-running, constant-speed motor. The instrument is much more quiet and smooth running than its predecessor.

The Premier Hi-Power Model 10FH is the feature model of the new line. The 400 watt, 100 volt biplane filament lamp is supplied as standard on this equipment, but 200, 300, and 400 watt lamps of line voltage ratings also may be used. The recently perfected Victor Hi-Power optical system is supplied as standard equipment.



# "OUT OF THE DIARIES OF THE UNSUNG!"—by Fred Felbinger

By Arrangement with

**NORMAN W. ALLEY**

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In Seven Chapters

## CHAPTER ONE

**M**ANY planes have taxied to the far end of a flying field on the North American continent. Pilots have gunned these ships as they lumbered dizzily across the field under the strain of a maximum load of fuel and gear, finally having them bump off the ground and rise into the air, slowly gain altitude and then head out into the vast expanses of the lonely Atlantic.

Some have made the other side; still many others have perished—joined that mysterious Utopia of martyrdom to the god of Adventure—never to be heard of again.

On August 23, 1932, another plane, The City of Richmond took off on its mission of high adventure. It carried a crew of eight, among whom were Norman Alley, pioneer of newsreel cameramen on transatlantic flying. Norman was setting out to fulfill his assignment of recording for the first time in history an actual pictorial record of trail blazing by way of the air over the treacherous unknown spaces of the Atlantic.

Jerry Altfilisch, sound technician, was to assist Alley as recording engineer and also to pinch-hit as radio operator for the flight. Peter Redpath, former associate of Harold Gatty in planning the famous Post-Gatty round-the-world flight, was acting as navigator. These three members of the crew managed to keep a vivid diary of their part in blazing a trail along the high road of adventure.

### Big Camera Equipment

Of the first leg of the flight Norman Alley records the following in his diary:

"We took off from New York aboard the S-38 Sikorsky Amphibian with the most elaborate array of camera equipment ever to be used from the sky. We had a talking picture camera and sound recorder, together with smaller hand cameras for emergency use.

"Our intentions were to try and bring back to America a true celluloid record of the little known lands that border the arctic regions. Leaving the city and steering toward Boston we did not bother very much with photoing. Instead every one seemed busy adjusting himself, in the allotted space aboard the plane, to the long and perhaps venturesome journey across land and water to London.

"Crossing the Bay of Fundy, after entering Canadian territory, we soon were over the City of St. John, New Brunswick. Pilot Hutchinson swooped down and around the land airport two or three times, but decided it would be better to land outside in the water. He knew that the field was quite short and rather than risk a dangerous takeoff, fully loaded the next day, took the water.

"The City of St. John showed its appreciation of our visit with an official banquet that evening and a warm send-off the next morning, as we winged away for Port Menier, 375 miles northward. The flight from St. John to Port Menier was nothing unusual with the exception of our last hour and a half, when we climbed to about seven thousand feet and scurried across the Gaspé Mountains.

"This terrain is perhaps the most rugged land on the North American Continent, in a wooded condition. We flew for half hour stretches with nothing beneath except solid miles of timber. It offered an opportunity for taking a few feet of movies, but they contain very little contrast because of the unbroken forest appearance of the ground.

### Wait on Weather

"Arriving at Port Menier, which is on Anticosti Island, near the mouth of the St. Lawrence river, we made a good landing and were greeted by the manager of the Anticosti Island Corporation.

"Our stay at this place for five days awaiting a good weather report was made most interesting through the good efforts of our hosts. We went trout fishing, horse back riding and played lots of cards."

Glancing into the diary of Peter Redpath, however, proves that the stay at Port Menier, Anticosti Island, was not all vacation. . . . Redpath entered the following in his record:

"Raining, misty and o'cast. Four days of bad weather, but excellent hospitality. Joe Ruff overhauled the motors, with myself as somewhat poor assistant. Finally take off for Hopedale, Labrador, with good weather report.

"When setting course compass needle deflected 10 degrees toward north by local attraction. Straightened out on course okeh, steering by the directional gyro (a non-magnetic compass, which is checked every half hour by standard compass). This

## FOREWORD

**S**OMETIMES men keep diaries . . . Diaries are nothing more than the recording on paper of the innermost thoughts of men . . . thoughts going on at the moment which a man wishes to keep for posterity . . . for his own posterity, as a truthful remembrance of strange, unusual thoughts that trickle through his memory at a historical moment or moments in his own personal life.

What follows herewith is a yarn woven around one of the strangest documents I have had the pleasure to browse through . . . a document containing the diaries of four intrepid characters from Life . . . four characters in the face of Danger . . . four characters whose tale herewith stamps them as Men.

So we take four diaries and out of them we weave a human, dynamic, dramatic tale of adventure; of disaster; at times of despair . . . only to close in a happy finale . . . Here is a yarn about four men of guts . . . They say truth is stranger than fiction! . . . Well, this yarn is truth; written by four unsung authors from Life with your humble Sassiety Reporter merely acting as interlocutor. F. F.

Sperry directional gyro is worth its weight in gold.

"The highest part of the Labrador country is just about 3,500-4,000 feet high, extremely rugged and barren, but with thousands of small ponds and lakes. We experienced a fair amount of magnetic disturbances over the Labrador area. Checked position at Hamilton R. (about half way) and found plane had drifted about 15 miles to the eastward. Allowed for extra drift and proceeded at approximate altitude of 3000 feet. Moderate head wind."

Meanwhile, between "takes" in his celluloid record, Alley registers another sequence in his diary:

### Water Everywhere

"Receiving a good weather report covering the Labrador coast, we prepared to take off for Hopedale, a remote Eskimo colony, about 500 miles north. Due to our fuel capacity it was considered necessary to make for a direct line across the vast untraveled wasteland of Labrador rather than choosing the more safe route around the coast line.

"We crossed over the St. Lawrence and steered immediately inland and northeast. After two hours of rather monotonous cruising we reached the edge of the timber line and could see nothing forward except great spaces of barren, foreboding masses of gray rock.

"An abundance of small lakes and rivers loomed around us at all times so that we were not confronted with danger in case of a forced landing. Many movies of interest were taken over this remote country.

"Our arrival at Hopedale was the occasion for a most unusual reception on the part of the natives. The entire



colony, including more than 200 husky dogs, clambered down the rocky shore line and showed us by sign and facial expressions that they were glad to see us. We found a Moravian missionary at Hopedale and received most courteous treatment from him.

"An Eskimo fellow, about 50 years old, was able to speak a fair degree of English and gave me valuable assistance in obtaining many feet of good movies. We staged the entire landing scene over again and the natives entered into the activity most interestingly. I have never worked among such a patient people as the Eskimo.

#### Weather the Big Question

"We watched our weather reports for the next two days with more than usual interest. The great variations of weather to be usually found over the Davis Straits from Labrador to Greenland make it extremely difficult to predict, from any given reports, what we might encounter on this leg of our flight.

"We do want to know if possible before taking off whether the coast of Greenland is free of fog, but our only radio contact in Greenland is at Julianahaaab, and that station is about 400 miles south of our intended destination. They are not eager to assist us with these reports, however, inasmuch as the Danish Government has turned thumbs down on our crossing that country."

#### CHAPTER TWO

THE Lord Talbot steamed out of Aberdeen, Scotland, carrying a crew of hardy Scot fishermen. Nothing unusual about a fishing trawler like the Lord Talbot. There were hundreds like her in the North Atlantic, but Fate was to cast the seaworthy Lord Talbot and her crew of men into a part that would go down into the annals of nautical history.

Fate was to stamp on the Lord Talbot and on her crew on this trip an

indelible mark of courage and heroism that would survive. So as the Lord Talbot steamed out of Aberdeen Captain Watson was on the bridge and First Mate Alex Main was off watch. The first mate had a habit of keeping his own record of the activities aboard the good old Lord Talbot.

So today the first mate in a new little black book began to write a chronology of what he thought was to be another fishing voyage but what was to end in a great display of courage, daring and heroism.

Alex Main, first mate of the Lord Talbot, turned to Page 1 of his new little black book and made the brief entry:

"Sept. 2—Leave Aberdeen at 2 a.m. bound for Wick, ease up outside for fog. Arrive Wick 2 P. M., G.M.T. Bait, which is herring, not plentiful."

#### Uneventful Beginning

Sort of an uneventful beginning of a sea voyage for a son of the sea. As time went on the first mate added to his entry on Page 1 the following:

"Sunday, 4th—We are still laid in Wick. The breeze is still on. The crew pass away the time on Sunday listening in to the wireless and reading.

"Monday, 5th—We leave Wick at 2 A. M. and proceed to the Pentland, arriving there about 6 A. M. We decide there is too much sea to venture through. We dodge till daylight, then proceed to Stroniness, where we discover the Aberdeen Line boat, Mount Arch, also bound east for Greenland, weather bound. The weather is now very bad, blowing a strong gale from the northwest and raining very hard.

"Two more boats are driven in to seek shelter, the Aberdeen trawler Dandina and the Grimsby trawler Grendear II. Toward night the weather eases up a bit so a few of the crew go ashore and spend a good

night's fun at a fair which is visiting Stroniness.

"Tuesday, 6th—We sail 12 noon, the wind now having abated. A heavy swell is still in our head, but we make nine knots all day Tuesday. The swell is now falling all the time.

"Wednesday, 7th—Weather is still fine. It is a pleasure to be on the sea. The Mount Arch is running alongside of us. Our crew are getting our gear all ready for starting fishing. You have to take every chance to get your fishing gear ready. The reason for having it ready so early is because it might start to blow at any time, so therefore you cannot lose a fine day like what it is today.

#### But Sandwich Runs Second

"Thursday, 8th—The weather is still fine and our ship is doing about ten knots now, the sea being flat and calm. One or two of the crew are giving their oilskins a coat of bonocred oil, so we are preparing now for any kind of weather. A few of us have backed a horse today through the wireless, so we are waiting now on 5 o'clock G.M.T. to hear the result from Daventry. Sandwich is the horse's name. She is backed to win straight.

"A slight breeze is springing up from the northeast. We look for that about this quarter. Our spirits are dumped—our horse came in second. The usual saying all round now is we might get a winner tomorrow.

"Friday, 9th—We have now sighted the Westenunn Islands. A heavy southwest swell is beginning to make itself felt. Our course is now set for Rikyness. We arrive there about 5 p. m., the Mount Arch still in company with us. We set a course for Cape Dan northwest one-half west. The sea is flat calm, but a deep swell is coming from the southwest. Up to midnight the weather is just the same."

And thus a few pages of the diary of Alex Main, first mate of the Lord Talbot, have taken shape.



*The Lord Talbot steamed out of Aberdeen, Scotland, carrying a crew of hardy Scot fishermen (Chapter II)*

Photo courtesy of London Daily Sketch.



# Screen Has Made Progress Slowly

Effort to Simulate Motion by Means of Lines or Photographs Began Thousands of Years Ago in Cro-Magnon Age

By **EARL THEISEN**

Honorary Curator Motion Pictures, Los Angeles Museum

**T**HROUGHOUT history we find man has struggled to better his means of expression, of conveying his thoughts and ideas to others. From the beginning racial success has depended upon giving to others that which the individual discovered. The most urgent need of mankind is to emancipate himself from his natural handicaps, to discover new things, afterward recreating for others.

Into this enters pictures as the most efficient means of expression, of recreating scenes further to generalize and organize knowledge.

Originally the means of expression only assisted the race to survive. It is easy to imagine the few gesticulations or shrugs our savage ancestors would have used to indicate a new thing in his existence. We easily may imagine the gurgling grunts of ecstasy accompanying the discovery of a new food or the squeal of fright upon the approach of danger.

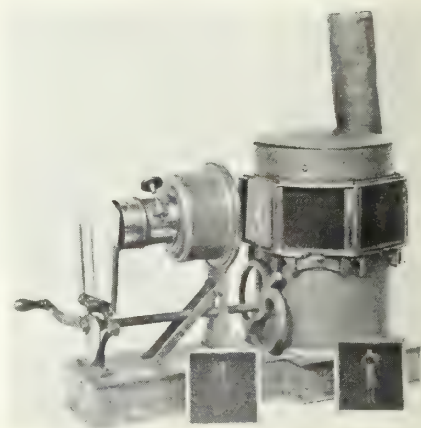
All this was done for a mutual service. It is embryonic art. It is giving ideas to others. It is furthering the race growth, that time refines with the addition of inspirational qualities. Art is a result of time, and embodies the technique of serving inspiration.

The many mediums in use today furnish incentives for going beyond the casual standard. Some artists use a brush, others a lens, others words, another will use printers' ink, and still another will serve with a musical note. These various mediums are to some extent limited in a geographical or ethnic way, with the exception of pictures. These enjoy international appreciation. Pictures are fundamental.

## Creature of Machine Age

A new medium is coming into being as an art, the motion picture. This newer medium is characteristic of the machine age. It is a combination of science and art. Although only recently perfected to the point of service, it has existed with the artist vanguards in the wish to lend realism, action, and great perspective in their picture creations. Through history we may trace the many attempts and the aim to show action in pictures.

As far back as the stone and chisel day artists tried to draw action in their pictures. A record of one of these attempts exists in a cave in Altamira, in Spain, drawn by a Cro-Magnon man of some 25,000 years



*Thaumatrope, invented by Sir John Herschel and Dr. William Henry Fitton in 1825. This device was the first to employ the principle of "Persistence of Vision." Photo courtesy Leo G. Young*

ago. It is a picture of a well-drawn bear with two sets of legs in an attempt to draw him running.

It was probably an inspiration of a sort to the primitive people seeing it in that day that one and all they would decide what to do if the bear should be running their way. They would devise ways and means to safeguard themselves. To be prepared in advance seems to be the word for all situations, and that is what pictures and expression are doing, even now.

Leonardo Da Vinci was not satisfied with the conventional methods at his disposal. He tried many ways to introduce realism into his pictures, the camera obscura being the result, perfected so as to instill a truer line. Many of our prominent artists subsequently used this "father" of our present day photographic camera.

Contemporarily paralleling the work of these artists in their meanderings on canvas was the work in the earlier theater, which was practically nothing more than bits of tableau showing action.

## Early Shadow Show

They were tragic in nature and the same actor covered his face with different masks to represent the characters in the various scenes. This type of theater existed in Grecian times and lasted after the Roman era in general form. This all is a prelude to the later motion picture.

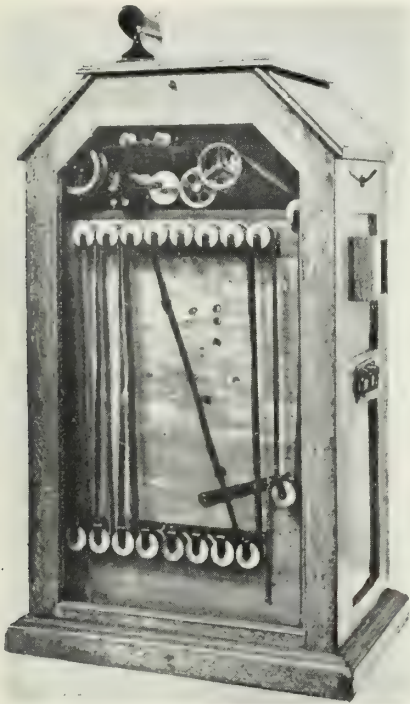
Another form of expression existing in all racial growths was the shadow show. These existed in Egypt, Arabia, Turkey, and were prevalent in early China as "Chinois Hombres." The most notable ones, however, were in Java, where the Javanese "Wayang," or shadow show, was a ceremony of every festive occasion.

Here the "gamelong," or operator, manipulated small figures of gods and devils made of wood, pasteboard and



*Reynaud Optical Theater of 1877 in Paris—Reynaud gave shows on transparent screens, using continuous bands of a substance known as "Crystalloid." His most famous was a thirty-foot story, "Pauvre Pierrot," told by hand-drawn pictures similar to our present cartoons. Photo from Tissandiers' La Nature Part 2, 1892, France, by Leo G. Young*





*This representation of the Edison peepshow was the perfected model made for commercial purposes in 1893, subsequent to the inventor's first successful pictures of 1889. The device showed pictures of 15 to 40 feet in length in a continuous band. Courtesy Leo G. Young*

other materials in front of a bonfire that threw a silhouette upon a screen. The showing of these shadows would be accompanied with suitable conversation, reed or gong music.

The sounds were used to raise the emotional pitch. These early shadow shows incorporated a marked emotional similarity to the non-physical aspects of our present picture house.

Can you visualize the early audience sitting on some hillside viewing this early form of motion pictures? There they would sit intently looking at pictures upon a screen, at the same time hearing atmospheric sounds, all blending into a crescendoing whole to some story telling climax.

The student investigating the themes in these earlier shows in both theater and shadow finds a marked difference in the climaxes which represent the advancement in dramatization. Now the climax is often alleged whereas then all doubts were removed by a tragic content.

#### Persistence of Vision

The shadow show lasted in Europe until about 1870, after having picturized folklore, heroes and ceremonies for countless generations previously. Vestiges remain today only in the form of amusement derived by children in seeing pictures of animals and heroes cast upon the walls by their elders.

In tracing the evolution of the ambition to see pictures in motion we find Sir John Herschel and Doctor William Henry Fittou, sometime in 1825, were

the first to introduce a device using the principle of persistence of vision. It was a cardboard disc with two pictures, one on either side, and when spun would combine the pictures of both sides. The first one consisted of a bird on one side and a cage on the other. When spun the bird appeared in the cage. It was known as the Thaumatrope, and exists as a toy in many forms today.

From here follows a period of over fifty years before anything of real value was invented, although several men each year were working on the idea of motion pictures using hand drawings, since photography had not reached a stage of perfection where it could enter.

The more noted attempts were Plateau (1832), who made a disc device with pictures around the outer rim, with an accompanying slotted disc to act as a shutter. Both were spun together. The inventor sacrificed his sight to the cause by his endless peering into his many devices made to improve the first.

William George Horner (1834), made the "Deadaleum" or "Wheel of the Devil." It was a drum with drawn pictures inside and slots around the top of the rim. Desvignes in 1860 made a similar device in France, which he patented as the "Zoetrope," or "Wheel of Life."

#### Kinema on a Paddle

Coleman Sellers in Philadelphia was the first man to enjoy a measure of success using a photographic image. In 1861 he perfected a system where he photographed, tediously, his children pose by pose, building up the action in steps in this manner.

He had to keep his plates wet with glycerine since photography had only reached the "wet plate" stage. He mounted his finished pictures on a series of paddles on a belt, and upon turning the belt the paddles carrying the pictures came into view through an eyepiece, giving a semblance of motion.

Sellers called his device the "kinematoscope." The word kinema here used for the first time was finally to designate the motion picture in all languages.

Among others to use various systems were Linnett (1868), hand drawn pictures in a book form similar to the biograph peepshow of the early days. Rudge (1866) made a lantern device to be later used in cooperation with Friese-Green; Uchatius (1853) combined the oil-burning lantern of Kircher, invented in 1640, and the Plateau device, projecting the motion of traveling bullets.

Dumont (1861) had a drum device; Heyl (1870) made a device that embodied all the underlying principles of the present projector, throwing pictures photographed step by step; Le-Prince (1886) started his investigations in making motion picture devices; Muybridge (1872) started his famed investigations in the movement of horses. Although this has no place in the history of motion pictures he did much to popularize the idea.

In the late eighties both Edison and



*Bio-Phantoscope lantern device showed pictures taken in various stages of a complete action by photography in 1866-72. It had an intermittent arrangement for moving the successive pictures forward and a shutter for stopping the light during the change such as is used today. Friese-Greene formed a partnership with J. A. R. Rudge in 1885. Coleman Sellers was the first to use photography in an attempt to record motion photographically*

Friese-Greene unknowingly were conducting a race successfully to move pictures and show motion by mechanical means. They both tried various mediums, including glass plates, heavy sheets of celluloid made by Carbutt coated with photographic emulsion, and other mediums including paper made transparent with oil.

#### Enters Celluloid

They were left grasping at straws when George Eastman and Harry Reichenbach finally completed a system of making thin celluloid sheets in 1889, on which was coated a photographic emulsion. They had perfected a medium upon which eventually an epic of the human race was to be recorded.

The first order to be shipped from the Eastman Company to the Edison Laboratories, on September 2, 1889, made it possible for Edison to complete the scientist's duty to make pictures move. That was a momentous day for the motion picture. It was like Independence Day. The race had achieved another step in freeing itself. Both Edison and the race were to be congratulated upon Edison's achievement.



# Under Tahitian Skies with Kershner

Cameraman-Artist-Musician Brings Back Fond Memories of Land and Water Where Food Is Least of Mankind's Worries

By GLENN R. KERSHNER

ON THE 18th of last November when the Union SS Makura tied up at Pier 33 in San Francisco and after all my cameras, film, coconuts, funny gadgets and souvenirs were heaped on the dock and the customs officials had stuck on their last stamp, I had the same thoughts in my mind that thousands of others have had. That was that some day I will carry most of that junk right back up that gangplank and go right back down to those beautiful Society Islands and stay as long as the islands and the natives will let me.

Now this was my second trip there and I am praying for my third. First reason is because everybody is happy down there. Seems like they don't object to you living, and now I'll tell you why they are happy.

They don't have to worry how they are going to live after they are forty-five years old because their families have right now and will have all they want to eat for generations to come. There's plenty in the ocean, fish, clams, octopus, maoa with its little trap door; the uao, that winds through the coral; the giant wrinkled shell fish pahua; turtles, centipedes, etc.

On land there are oranges, mangoes, coconuts, papayas, avocados, chermoya, fai (the banana used for cooking), breadfruit—well, in fact every month there are trees of some kind weighted down with delicious fruit. And then they grow the sweetest bananas I have ever eaten.

Now another reason is we can throw away all these heavy suits and leather shoes, have a nice white suit made for 90 francs (\$3.60 in our money); a pair of canvas shoes for 10f, a hat for 7f, and forget all about the underclothes and socks, for they will only be in the way.

## Shorts in a Big Way

I soon got the habit of wearing shorts like the others, for they are cool and much more comfortable than

long trousers. I also adopted the pareau whenever possible, and with these you can cut down your laundry bills practically to zero.

You wear the pareau instead of trousers. You can use it for a towel. It makes a good sleeping garment, a



Location on Moorea Island, where was photographed the land eel sequence. The great area brought within the camera's range is part of the Med Kellam estate

splendid window shade, and is great for seigning shrimp.

Well, they are the handiest twelve square feet of cloth I have ever seen. Of course the secret is to learn to wind the garment around yourself so it won't fall off and precipitate an embarrassing moment.

To think South Seas, is to think of pearls, black pearls, skin-diving, sharks, lazy lagoons filled with outrigger canoes, skies filled with great masses of beautiful clouds, shapely girls with their wreaths of tiare

Tahiti, tall palm trees swaying in an air laden with the fragrance of the frangi pani, gardenias and the delicate white jasmine and sunsets that are beyond the painter's brush.

This is all true, but never forget that storms swoop in on you and rain comes down like no other place in the world except under Niagara Falls, and what it did to my poor seven reflectors would break any cameraman's heart.

## When In Rome—

Writers who wish to tell of all these lovely things must go there, live like the native does, do what the native does, and in the native way. It took Nordhoff and Norman Hall nineteen years down there wandering around researching for their books.

Loring Andrews, who wrote "Isles of Eden" and whom I met on the islands, is well into his third book. Ralph Dawson, the film editor, was there preparing and accumulating atmosphere. Mr. and Mrs. Gouverneur Morris own a beautiful estate (where we lived) on Tahiti, and like Viscount Hastings did for his book "The Golden Octopus" have spent years gathering data for their many stories.

Ray Long is there with his typewriter, and Frisby is still perched up on the tall cliffs of Moorea, where he has a full sweep of that beautiful Cook's Bay for inspiration.

It is there that I am wild to go again with my camera to stay for a while and picture those beautiful effects, settings and backgrounds, for the majority of pictures down there have been made like machinery, and this is wrong; Murneau proved that to us with his beautiful "Tabu."

I would like to have my typewriter, my pencils and pens, my Leica camera and Mitchell camera all hitched up like the harness was in

the old fire barn and I guarantee that some of those beautiful effects would not be missed.

This time I went with Mrs. Gouverneur Morris and Irvin Willat and had genuine success. We made two native stories, one by Mr. Morris and the other by Mrs. Morris. She being so well acquainted with and well liked by the island people extra privileges were granted us. We used the Islands of Tahiti and Moorea with all their grandeur for the settings, with a beautiful story running through each,



built our interiors right there and used an entire native cast.

### Natives Liked Sets

Then we made the South Seas atmosphere and thousands of feet of backgrounds for Universal's "Black Pearl," during which we hunted every nook and corner, palm tree and village of Tahiti, Moorea, Tahaa, Huahine. Raiatea and Bora Bora, where we spent nights building little villages, constructing churches and painting them so as to "shoot" at sunrise, and how enthused the natives were to see such sudden changes! Incidentally when we started to raze our sets the natives begged us to let them stand, which we did.

In doing these things I believe I became acquainted with every person, dog and schooner in the Islands. I have paused many nights to watch the natives squatted in circles sing a "himene" with their marvelous six-part harmony, the women forming the inner circles, while the men were ranged on the outer edges, bending over near the floor and swaying back and forth while they filled in the bass notes.

At intervals the man who conducted would sing in a shrill falsetto voice, piercing metallic notes, almost a scream, and when heard from a distance was weird and had a terrifying effect yet beautiful, knowing what it was.

While at Tahaa I photographed the famous stone-drive fishing and the sacrificial Maraes on the Taareu River of Huahine Island.

### Comes and Goes All Right

During these trips through the Islands we had many wild rides in storms. On our way back from Bora Bora to Papeete on the little forty-foot schooner Xavier Marie Stella we plowed into a head wind and terrific rolling sea that went right over us for thirty-six hours. Believe it or not, I found a place on deck, right back of the wheel where the main boom sheets came down, and lay in that one spot for nineteen hours holding on to a copra sack with water going right over. This time I was mighty glad it wasn't away up in Baffinland in the ice.

On first arriving back at Papeete

my many native friends whom I met there in 1922 gave me a fine native dinner and named me "Manu Reva," which means "A bird that comes and goes." We then went up the beautiful Fautau River, wandering through the groves of fai, of coffee trees laden with the little brown berries, of tree ferns with leaves twenty-five feet long.

Up and up we climbed through little paths cut in the tall tropical growth until we came to the beautiful falls which dropped like a silver thread for hundreds of feet into a dark canyon. It soon began to rain, as it always does up there.

On the way down we followed the tumbling rapids holding big upae leaves over our heads as umbrellas. Soon we came into the sunshine, gathered oranges and candle nuts and then stopped for a plunge in the famous Loti Pool.

Knowing how well the natives love music and play I took along some instruments—flute, guitar and mouth harp—and enjoyed many hours with them in the moonlight under the Southern Cross or on the forecandle head of some little bounding schooner.

I soon learned to beat rhythm on their toere, a block of hollowed out wood. Then I learned some of their native music and dances.

I studied their modes of living, how they prepared their many foods, built their homes, existed on the reef, how they speared fish and learned to skin-dive. I soon realized that climbing those tall cocoanut palms was absolutely a native trick all its own, for a native will go up a sixty footer in ten to twelve seconds, and slide down quicker.

### Thirteen Letters in Language

Half of the native's life is spent in or on the water, for half of his living comes from the ocean. So, like the Eskimo boy of the North, the island boy soon learns his father's tricks with the outrigger. Most any time of the day that you cross a river or a creek you will find a bunch of children playing in the water or native women washing clothes.

Their native language has but thirteen letters in it, which are A, E, F, H, I, M, N, O, P, R, T, U, V. This

is the way a few words are translated such as: Go, pronounced hare; stop, faaoti; wind, matai; music, upa upa; run, ahoro; slower, hare matie; thanks, mauruuru; to eat, amu. One can readily recognize that T, A and M are the most used letters.

The school system of the island is good. Being under French protection the children are taught French, but owing to so many Chinese inhabitants by the time the pupil leaves school he can talk French, Tahitian, Chinese and English.

The charming city of Papeete, being the port of entry and the seat of island government, has the splendid upper grades and finishing schools, good stores, a cinema theatre, a market, good garages and hotels, especially the Blue Lagoon and Hotel Tiara, and a city where a number of retired white men (paoupaas) live. Here I met two 659 members, Eric DeBraugh and Max DuPont. Each is happy and sends back best wishes.

### The Magic Burau Tree

While modernized homes have been built the native still clings to his home built out of Burau poles on which are tied braided cocoanut palm leaves called neau. The roof is made of braided pandanus and all tied together with strips of burau bark.

In fact, this burau tree furnishes the greater part of the native home, dishes for the table, the leaves are plaited together to build mats, made into big bundles to put over the native ovens to hold in the heat, and serve many other intimate domestic purposes. It is the beautiful love flower of the burau tree that floats so prettily down the little streams.

The breadfruit tree supplies one of the most staple foods, the inner bark makes material for clothes, and the wood is one of the most durable for usage in the island, for oak taken from the states down there will only last a few years.

The cocoanut tree is the main supply of food and a native's wealth is generally told by the number of trees he possesses. There are many interesting things to know about the cocoanut tree and the nut. As in all trees there is a male and a female. The female fronds or leaves are longer



Left, beach cabin of Mr. and Mrs. Gouverneur Morris, authors, in Tahiti. Right, bamboo platting of island home and its construction, everything being built off ground on account of termites





Left, Mira Tiana (Sunshine), Mr. Kershner and Mira's p'aymate, Revi Mana (Shadow), devoted followers of the cameraman. Right, himene or community sing house

and thinner, while the male stand up more straight.

There are some twelve different varieties and they thrive best nearest to salt water. The meat in the four-months-old nut, pape hare, is soft and good to eat and splendid for drinking. It contains the same properties as mother's milk and babies are raised on it.

The six-months-old are called opaa and miti hare. The twelve-month-old nut is called copra. These are split open and left to dry for a couple of days. Then the meat is extracted, spread on trays and let dry in the sun for about four days.

#### Long Lived Cocoanut

This is then called copra out of which cocoanut oil is made. Out of the meat of the three-months-old nut a white milk is squeezed after it is shredded. This we use for our coffee or to make cake, but one of the main uses is to take this milk with the juice of a lime and some salt water in which to dip our raw fish when eating.

When a nut has sprouted and is ready to plant it is called opaa uto, and as the tree grows the leaves are called fronds, and one of these fronds drop each month. Each tree is good for about fifty nuts a year and continues to bear from 60 to 100 years, but are best between their fifteenth and fortieth years. It takes about 5000 average nuts to a ton of dry copra, for which they receive around \$28 at the present date.

The husks or fibre called perru are employed to make rope and matting. It is used as the firewood of the Islands and generally in the smoke one will see food being cooked in Standard Oil Company five gallon gasoline cans. In fact, five-gallon cans are used for everything.

Now I could go ahead and tell you pages and pages about the use of the taro root, ufi; yam, umura; pumpkin and the many other funny things about the cocoanut tree and vegetation that raises the dickens with you when you start to using different filters.

#### Watch Your Filters

Speaking of filters, it is well to know your filter ratios because the

light changes so fast, and, being one of the trickiest places, one has to use good judgment in his selection, especially when everything is being brought back to the United States to be developed.

On this trip we used both Dupont and Eastman, all different speeds, to get the best results and to find out exactly the best working conditions for future trips there.

On arriving at the islands I made a number of hand tests, then at night I tested each roll when unloading. The laboratory work was done at the Paramount laboratories with splendid results.

While only three of us went, it was necessary to have interpreters and native help. Bertha Low, Mrs. Morris' Chicago-born Chinese maid, was very valuable in interpreting to the Chinese.

We were fortunate in securing the advice of Thomas Bunkley and the services of Bill Bambridge, to whom I attribute a great deal of the success of "Tabu"; also Adram, the garage man; Sam Russell and Whitney Jones. Two other boys whose services were invaluable to me were Taro Spitz and Sunny Chave. Each speaks three or four languages and will be very valuable to any one going there to make pictures.

Mr. Editor, when you get a little spare time, come over to the house and I'll show you a marvelous collection of giant tree crabs, conch shells, miniature house, ceremonial clothes, tekes (gods), musical instruments, shells, etc., and I'd like to have you drop in and see screened a few of the film I made for lectures, and some time I'll tell you of some very interesting trips around these beautiful islands, some wonderful legends about them and what the natives can do with their cocoanut wireless.

\* \* \*

#### A Tender Memory

[That invitation has been accepted. Four reels of film were shown at the Eastman Little Theatre, and the writer still is under the spell of that picturesque country and its wholesome natives. He has heard that conch shell, two of them in fact, the second manipulated by the son of the trav-

eler. The resulting volume can be measured only by an expert in those decibel things, but it was ear-splitting. And the writer has seen and marveled at all the many strange things added to the Kershner international museum.

So, too, has been heard from the traveler's own lips his vivid memories of Mira Tiani, charming and brilliant seven-year-old shown in one of the accompanying illustrations, and of how Mira taught him the secrets of the weird cocoanut wireless and its telepathic mysteries and how he in turn had taught her English words; of how as the ship moved away from the pier he heard a faint good-bye and spotted that slip of a maid with wet cheeks waving to him, recalling to him that in the hurry of departure he had overlooked a farewell embrace of the little one who with Revi Manu, her inseparable playmate, from 6 o'clock in the morning on had followed him through the long day; and of how a bit later while watching the moving farewell staged by his friends on skimming outriggers, the fifty-one leis still hanging about his neck, he again heard that faint good-bye and saw outlined against the glistening water the standing figure of radiant-orbed Mira with flying hair and dress again waving good-bye.—Ed.]

#### Erpi Develops Attachment Making for Cutting Economy

RECENTLY developed and made available by Electrical Research Products is a preview attachment being utilized by west coast producers at a considerable saving in previewing talking pictures.

The attachment's advantage is that it enables the sound track and the picture to be run on separate films through the same machine, obviating the expense and time involved in processing a composite print.

While the process is subject to modification according to the type of projector in the theatre, the usual procedure is to remove the front plate of the projector head and mount in its place the attachment, which is driven from the main drive sprocket by a series of gears and silent chains.





# *Cream o' th' Stills*



*Joe Lykens brings back from Kentucky this picture of a remarkable type of mountaineer—"shrewd, keen and a crack shot"—which might be taken for granted. This camera study will hold the attention of those who ordinarily just slip over a picture—this watchman of the hills with the benevolent face—maybe.*





# *Cream o' th' Stills*



*Francis Burgess shows us what the explosion of an ammunition train looks like even though we are spared the ear-splitting detonation. Debris rising to height of 200 feet.*



*Lake Tee Jay, one of the Mammoth Lakes, lies under the 12,000-foot elevation of the high Sierras. Photo by George H. Scheibe.*





# *Cream o' th' Stills*



*Here is  
Sylvan Lake,  
photographed at  
dusk in Rome City,  
Indiana, by  
Otto Benninger.*



*One of the  
members of the  
recent Zane Grey  
expedition to  
the Northwest  
has some  
narrow squeaks  
on Black Bar,  
at one time the  
navigator's head  
being the only  
part of the outfit  
above water.  
Photo by  
H. C. Anderson.*





# *Cream o' th' Stills*



*Emmett Schoenbaum with this shot of an interior set at Pathe for showing fog at night in London demonstrates what the effects men can accomplish when they really get going.*



# 666 CHICAGO 666



## In Focus—In Spots!

WELL, Happy New Year to you. And here's hopin the headache and motorman's glove taste is gone when you lamp this. Well, mebbe we're all set for a fresh start in '33, but afore we burns down that bridge let's go back and have a bonfire on ole '32 and see what milestones them 666 Knights of the Celluloid plastered on the screens and then into newsreel morgues for posterity.

To me '32 sure looks like anythin but a depression when lampin over what them hombres what juggles tripods for newsreels did that year. Their escapades go like this for me.

They starts off the year with a high class weddin on January first—Emilio Montemuro was the brave lad what caused us to go out the first day of the new year and git the old headache all over agin. It wuz a grand weddin anyways.

Then in the middle of January we makes history at the annual Cary Ski meet which we covers evry year. This one was unusual as it wuz the first one the ole timers kin look back on and remember where you didn't freeze your pants on to you in about 20 below. It wuz a regular California afternoon and we didn't have to drink that

By the Sassiety Reporter

As Told to

FRED A. FELBINGER

Swedish punch we had to guzzle other years—a mixture of gin, moonshine and strong black coffee—in order to keep warm.

Then right in the middle of the month our own original Don Juan made history. Orlando Lippert in person fell in love with the sweetest kid the Lord ever breathed wind into. This love wuz the real thing accordin to Lippert at the time.

### Touch of Summer

February wuz swell for yours truly. It took me down to New Orleans, where it wuz warm, for the Mardi Gras. And I met a lot of ole time friends while down there—among them Tracy Mathewson, Ed Dyer, Webber Hall.

Then back to Chicago just in time for the annual March Blizzard. And the night the big wind was twirlin the snow into the lenses of the rest of us 666ers Lippert ups and announces he has found a new Honey, and wuz he in love this time!

He broke up with this one jest about the time the gang wuz settin up down

at South Bend the 1st of April to shoot the fightin Irish going through the Spring workout.

Eddie Morrison, Red Felbinger and Tony Caputo predicted loud mouthed how them Irish wuz set to smear Southern Calif. the comin fall.

Durin this month a gang of crankers with wings wuz zooming in formation up at Selfridge field with the First Pursuit Squadron of the U. S. Air Corps shootin some high class formation stuff above the clouds.

This army of winged sharpshooters included Montemuro, Caputo, Lippert and Bob Hollahan. They stuck to handcrank Akeleys standin in the open cockpits of ships that flew at greater speeds than 190 miles an hour.

### Sun Shone on Derby

Then the sunshiny month of May dragged the gang south to Churchill Downs to make the pan from the roof on the annual Kentucky Derby. It was another unusual story this year because for once the sun shone and the gang could stop down. Also the whole gang wuz bettin on Burgoo King right on the nose.

A couple of days later these same sport historians wuz kneelin in the street of a small town in Michigan named Holland, makin odd angles on a ole Dutch scrubbin contest. Jack



Left, Conrad Luperti, whose interest in his camera seems eclipsed by that in the expedition's bathtub in the foreground; right, sleeping tents of the expedition. From story in December International Photographer.





Left, Conrad Luperti with his Model A Bell & Howell; right, Dave Hargan with a puff adder that came to grief when it ran into the expedition. From story in December International Photographer.

Barnett wuz leadin the odd angle contest on this one, and then he ran out of film and had to quit.

Memorial Day ended the merry month of May for the gang down at the 500-mile auto grind. Up at the north turn at that benzine derby the gang flirted with death and wuz rewarded with some fancy crack-up pictures.

This gang included Charlie David, Urban Santone, Phil Gleason, Eddie Morrison, Tony Caputo and Ralph Saunders.

And while these daredevils are glued to their cameras down at Indianapolis Orlando Lippert pops up at the Omaha balloon races and announces he finally has met THE little woman. What a Honey, etc., etc., and wuz any of them other guys ever in love like he was?

Then the beautiful sunshiny month of June opens up in the Windy Village. Everythin wuz nice and green in the parks. People marched to the city beaches. Couples spooned in the parks. Life wuz swell in the month of June in Chicago.

#### Chaos in Ches's

At least that's what that gang of 666 newsreelers read daily in them papers what was tossed to us as we lived in our hot sticky perches out there in the Stadium at the Republican and Democratic Conventions listenin and shootin night and day as politicians read off reams and reams of speeches on what's wrong with the country and preached on givin us good beer—while we sat there with our tongues hangin out wishin we wuz over at Ches's Place hoistin a cool one or two.

The gang finally got out of the Stadium and dashed down to Ches's Place jest in time to see the G. men raidin the joint and haulin out the good ole worn mahogany bar. And the way them G. men tossed our beloved bar aboard the wreckin truck wuz sacrilegious.

Then July rolls merrily in with Ches sportin the new bar with the back bar and its swell mirror. Again

life was bearable in the Windy Village.

The middle of the month brought us a swell outboard race over on the World Fair grounds and the gang enjoyed shootin again out in the open. Lippert sported a new little blonde babe on this one and then sheepishly announced to this wiggly eared dept. he finally wuz in love.

#### Al Wilson Passes

August brought the newsreel gang the first decent fire we is had in the boom-boom town in years. It wuz down in the stockyards, and them film burners sure stepped around gettin some heart warmin shots of the synthetic Nero picnic back o' the yards.

Then the end of August and the National Air Races down at Cleveland. The air experts showed up at that one, Eddie Morrison, Bob Sable, Caputo, Jack Flannigan, Lippert, Jack Barnett and Floyd Traynham. Ole Benny Silverberg came out to the field to swap lies with the gang. And the assignment ended rather sadly as ole Al Wilson, Hollywood stunt flier and a real pal of them 666ers, cracked up fatally. Okeh Al—the boys aint forgot you yet and never will!

September—Labor Day—Detroit. The annual Harmsworth Trophy race is on. Only this year they holds it at dawn, and what a bubbly-eyed gang of 666ers tumbled out of bed at 3 A.M. for three days to make fast pans of Gar Wood sneakin up from behind to whiz by Kay Don and keep the ole trophy on his mantlepiece back at Grayhaven.

Then October—and more of that June baloney. Political speeches and more political speeches and more. Trips following the President through the Middle West. Arguin and fightin with Secret Service men for them precious Presidential close-ups. Six-sixty-sixers poppin up in this town and that meetin ole pals from the east on the campaign trains.

Then November with its frost and football, with Saturday mornins spent hawlin heavy equipment to the tops of

press box roofs at the big stadiums. Mobs of friends you never knew you had before botherin you for passes to the games. Notre Dame pushin ahead beatin one team after another. Boy, how them 666ers knew Southern Cal. would be a pushover. Lippert sportin a new gal down at the games. Love's young dream finally.

Then December and that slow Satidly afternoon we settled down to a radio and finally got the dope. Southern Cal. was smearing our beloved Notre Dame. Then the return of Norman Alley from his daring assignment with the Flying Famby. And the little black book Norm let us read that he carried with him containin the diaries of four brave guys.

And then the approach of Xmas—only a few shoppin days left—and the startlin announcement by Linnert that he wuz through with wimmin—for good. There aint no such thing as love, says the Don Juan of the newsreel industry.

And so to bed with another ole year worn down and survived by the ole gang. All the big sidelights of it on celluloid and canned away for posterity, but with plenty of the celluloid left to run through magic boxes in '33.

What will '33 bring? What big stories will bust? What gang will pop up to cover them? Anyways new faces—always old faces poppin up where von least expect them. New lies by the gang. Old lies dusted off, after hours. Newsreelers, always pluggin. Work, more work.

The newsreel game. "What a lousy racket." And how them hombres love that ole racket of theirs.

SIX-SIXTY SIX

#### Drinks on Jack

Have you heard the yarn they tell on Jack Barnett? Jack was assigned to go down to Purdue and cover the All American footballer, Horstman. Jack had his camera all set up on the field waitin for the arrival of the football fellow when he discovered some young laborer on the field sizin up



Jack's Akeley, lookin through the finder, etc.

Well, Jack didn't want any laborer monkeyin around his precious Akeley, so he ups and gruffly orders away the laborer. Finally the Purdue coach, whom Jack knew, ankles out on the field arm in arm with the laborer and over to Jack.

"Jack!" says the Purdue coach, presentin the laborer, "I want you to shake hands with our all-American, Horstmann!"

"And wuz my face red!" says Jack, "but you shoulda seen how swell that guy looks in a football uniform. How wuz I to know that wuz him the way he wuz dressed up!"

SIX-SIXTY-SIX

### What's Doin

I reads in the International Photographer where some fellow has opened up a 16mm. library for home use. Reminds me about ole Harry Birch. Harry started out with this same idea here in the middle west two years ago and now has one of the most extensive

libraries in the middle west of 16mm. stuff for home use.

Owner of projectors join Harry's club, "Associated Film Libraries," and have the free use of the library's films, which include travelogues, comedies, features and industrials.

Reed Haythorne is very busy purchasing equipment for the next expedition he is to make with Professor Breasted of the University of Chicago into far Asia.

Verne Blakeley has completed a beautiful piece of photography on a one-reeler of the World's Fair. It is rumored the bigger theaters of Chi is plottin to spot Verne's pix into coming programs at the cinema palaces.

Floyd Traynham has went and adopted himself a pet pigeon which he found starvin up at the Daily Nooze lab. They is pals and wherever Floyd goes in his car huntin down news the little pigeon goes along in the back seat.

Tuned in on KFI, Los Angeles, t'other night and heard the old Dope

hissself broadcast. To make it a double header the ole Swede introduces Sammy Greenwald. Well, it wuz swell to hear the two of you, Ray. Also here's good luck to one great ole Swede, Ray Fernstrom, on his racket of glorifyin newsreelers via the ether. Go ahead, Ray, we is listenin.

SIX-SIXTY-SIX

### Newsreeler Goes Editor

And as I am on my way to a mail box with the above tripe I runs into a bozo what tells me they got a new hardboiled picture editor over at the Herald and Examiner, one of the biggest papers in the country. This bozo also informs me the hardboiled picture editor knows his onions.

So I checks up on this tough editor's name and I finds it is Norman W. Alley, former newsreeler ace. Well, now, it jest goes to prove you gotta talk nice to your buddies allatime nowadays. You never know where these here newsreel fellas wind up. Congratulations, Norm, and best wishes on the new venture.

## Award Japanese Second Prize in American Cinematographer Contest

SHOWING the prize winning films of the amateur moving picture contest conducted by the American Cinematographer, an exhibition was held December 6 at Eastman's Little Theatre in Hollywood. Present were motion picture writers on local newspapers. As those who responded to the invitation exceeded the capacity of the 16mm. showroom it was necessary to conduct the exhibition in the sound theatre with its comparatively long throw and loud screen.

The handicap imposed by the long throw was due to the absence of time in which to secure a longer cable or lenses suitable for the distance. The editors of the magazine estimated the four subjects displayed suffered in diminution of light or in photographic value by at least 50 per cent.

Two of the subjects shown were of three reels, the first and fourth awards, and the other two were singles. They were put on the screen in inverse order of determined merit.

### Sponsors Handicapped

If it be the aim of the more professional amateurs, or those who aspire to the best that is possible in the making of screen entertainment, to blaze a path so to speak that the makers of admittedly professional subjects will gladly follow, then it must be admitted the amateurs still have a long road to travel. We are assuming of course that the subjects sent in to this competition are fairly representative of the best that is being done in that field of activity in the United States.

That to imply they may not have so qualified is in no manner to speak in derogation of the contest results, as it was the first of its kind in that particular publication. Then again the number of better equipped contestants

naturally would depend on or be determined by the amount of cooperation extended the Hollywood magazine by the great national organization devoted to amateur "movies," Amateur Cinema League, Inc., which is backed by a successful and well established mouthpiece.

It may be interesting reading in connection with the immediate foregoing to glance over the opening pages of Movie Makers for December. The subject is the year's ten best amateur films, the degree of merit being determined by the staff of the publication.

### Two Hundred Contestants

The Hollywood publication awards its third prize to "I'd Be Delighted To," a single reel, produced by S. W. Childs, Junior, of New York. By reason of the second prize being awarded to a Japanese the first named naturally becomes the second award in the United States. The same film was submitted to Movie Makers. Not only was it not included in the financially unrewarded ten best, but it is named as seventh in those subjects given honorable mention.

So it would seem the prize winners of the local magazine cannot fairly be said to reflect the advance attained by amateurs up to this point. Movie Makers announced that nearly a thousand completed subjects were submitted for judging. The local contest contained a little over two hundred entrants.

Discussing the subjects in the order in which they were shown on the screen, "The Black Door," produced by the Greenbrier Amateur Movie Club of West Virginia, was seriously marred by the atrocious typography of its subtitles. Just one example will suffice to cover the point. That was the division of "command." The split

was on the "co," with "mmand" turned. This is not an isolated case. Professional producers early learned to their sorrow that titles are not unimportant.

### Japanese Picture a Marvel

The third award seemed to this observer the best of the American prize-winners. Although nearly a week has elapsed since they were seen the impression lingers that "I'd Be Delighted To" was superior to the first as well as the fourth in the major factors going to make a picture. It hardly will be classed as a family picture, inasmuch as it showed a night out of a man and woman through the medium of hands and feet or arms and legs, beginning with the parties in their respective bathrooms and following a champagne dinner winding up with a disrobing finish and putting out of the light. No titles are necessary other than the main, which would seem to be self-explanatory. It is all very cleverly done.

The second award, "Lullaby," from the camera of Tatsuichi Okamoto of Matsuyama, Japan, is a marvel, in story or conception, in composition and in photography. Distinctly it is in a class by itself.

The first award went to "Tarzan, Jr.," produced by Ernest W. Page and William A. Palmer of Palo Alto, Calif. It is a tale of boys in a summer camp, and undoubtedly through their uncritical eyes will have major interest for those whose age is near that of the players.

### "You Said a Mouthful"

The average executive in a studio is no match for even the poorest paid writer on the lot so far as story telling ability is concerned. This lack of knowledge by the men who have the say in all stories and how they are to be treated accounts for most of the bad pictures and the low morale of the entire writing element here in Hollywood.—Hollywood Reporter.



EASTMAN  
FILMS

BRULATOUR

WHAT'S WHAT!

Published Monthly by J. E. Brulatour, Inc., Distributors, Ea

## EASTERN CRITICS' REPORTS

Brulatour Extends New and Valuable Service to  
Hollywood Cameramen

THROUGH the cooperation of the New York and Chicago offices of J. E. Brulatour, Inc., press clippings from those two eastern cities' newspapers reviewing important Hollywood productions will be supplied to the cameramen responsible for the photography on these pictures.

It is rather unfortunate that the New York and Chicago critics sometimes overlook the impor-

...tance and value of good photography in the pictures which they review. Some of the critics, however, have given very good mention to the Hollywood cameramen; but even when they fail to do this, reports on the pictures and the reaction of eastern audiences are vitally interesting to the photographers.

All reviews on all pictures opening in New York and Chicago are promptly rushed to Hollywood by air mail and are distributed by the Hollywood Brulatour office to the cameramen concerned.

Through our publicity department we are renewing our campaign with all metropolitan newspaper critics in calling to their attention the fact that photography is quite as important as many other details of the features to which they often devote considerable valuable space.

We are gratified to learn that the publicity departments in some of the major studios also have requested the newspaper critics to give more consideration to the photography on their productions. Personally, we would like nothing more than to see the names of the cameramen in lights on the marquees of the theatres throughout the country, but in the realization that this is a desire which will probably not soon be gratified we are very well repaid for our renewed effort on behalf of the cameramen if we generally convince the critics that the photography credit is one which should never be overlooked.

## Educational Pictures

DWIGHT WARREN continues to turn out unusually fine photography for the Variety comedies, released by Educational. Warren has been with Educational so long that E. H. Allen, general manager, included the cameraman in the general yearly inventory which was taken this week.

## Chicago Notes

Blakeley Again Proves  
His Genius as Artistic  
Photographer

VERNE BLAKELEY of Chicago Film Studios has just completed a good will propaganda production for the World's Fair Committee. This is a beautifully photographed production and is just another example of the splendid work Blakeley is consistently turning in.

The picture was produced for theatre showings here and abroad, and it is estimated by the committee it will be singularly responsible for bringing many thousands of people to the Fair.

Blakeley's patience and artistic temperament are completely exemplified in the many effect shots he has got . . . and he contributes a large share of the photographic success to the Eastman grayback negative which he used on the entire picture.

Ray Bell Enjoying the  
Depression

The boys at the Ray-Bell Studios in St. Paul are grinding 'em out again as in the good ol' days. The cameras and sound recorders are clicking in good style and they're turning out some corking good pictures, too. Ray-Bell are shooting probably as much Multicolor as any one in the country at present, and have recently finished another color production in the Ozarks.

## Paramount

GILBERT WARRENTON is in charge of the photography on another Paramount feature. This time it is "Good Company," under the direction of Norman McLeod. Gil's second is Fred Mayer and his assistant Neal Beckner.

VIC MILNER is starting "Song of Songs," featuring Marlene Dietrich, directed by Rouben Mamoulian. Bill Mellor, second, and Guy Roe, assistant.

CHARLES LANG has been assigned to the Norman Taurog-Maurice Chevalier picture, "The Way to Love," which got under way this week. Bob "Von" Pittack is the second cameraman and Cliff Shipser, the assistant.

DAVE ABEL continues at Paramount and is presently shooting the William Beaudine production, "Crime of the Century." His second is Ernie Laszlo, and Jimmie King completes the crew as assistant.

## RKO

NICK MUSURACA has finished "Scarlet River," a Western with Tom Keene, which was directed by Otto Brower, and then stepped in to pinch-hit for Eddie Cronjager ("flu" victim) on "Sweepings" for a few days.

They do say that "King Kong" is nearing completion. Now, EDDIE LINDEN and J. O. TAYLOR soon will be able to show the boys what's been happening behind the closed doors during the past many months.

"The Great Jasper" is an unusual and interesting angle on the story of a streetcar motorman. It is being photographed by LEO TOVER, with Richard Dix as the star. Joe Biroc is second and Willard Barth assistant.

JACK MacKENZIE finished another Brock comedy over the week-end. His seconds were Fred Bentley and Eddie Pyle, and his assistants Charles Burke and Harry Kaufman. Another Constance Bennett production, "Our Beters," a story of the English aristocracy, is under way with Charlie Roshier (as usual) at the camera, and George Cukor directing. Roshier's second is Frank Redman and his assistant is Cecil Cooney.

EDDIE CRONJAGER is completing "Sweepings," the John Cromwell production starring Lionel Barrymore. Bob DeGrasse holds the spot on the second camera and George Diskant assistant.

## Universal

EDDIE SNYDER has finished in quick succession "They Just Had to Get Married" and "Destination Unknown," and is now standing by.

JOHNNY HICKSON finally got enough time between serials to do some more work on a feature picture, "Naganna," which he finished recently.

JERRY ASH is shooting what promises to be a very novel picture featuring Chick Sale and a couple of trick high school dogs with a post-graduate college education. Zion Myers, who registered so emphatically with his "barky" comedies at M.G.M., is producing and directing the picture.

DAN CLARK has finished another Tom Mix Western, "The Rustlers' Round-Up," which completes a very busy year for Dan, including seven or eight with Mix and a special assignment for M.G.M. With Dan on the last one were Norman De Vol as second, and Eddie Jones, Martin Glouner and Bill Dodds as assistants.

CHARLIE STUMAR has just completed photography on "Private Jones," featuring Lee Tracy, under the direction of Russell Mack. King Gray was his second and John Martin and George Trafton assistants.

GEORGE ROBINSON gets a tremendous thrill every time he starts the camera to shoot Clyde Beatty in "The Big Cage," which Curt Neuman is directing. About fifty lions and tigers together in an enormous cage, and some of them not exactly friendly. With Robinson are Al Jones and Jake Kull as seconds and Paul Hill, Lloyd Ward and Jack Egan as assistants.

LEN POWERS is starting another with Warren Doane, which will be directed by George Stevens.

## Faxon Dean Finishing

At the Trem Carr Studios Faxon Dean has just finished another Bob Steele production, "Trail of the Yukon," under the direction of J. P. McCarthy.

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## Columbia

Joe Walker is standing by for assignment on a production which will start about January 4.

AL SIEGLER has completed the latest Buck Jones picture, "Lost Valley Gold." This one is directed by Lamb Hillier; F. M. Browne, second camera; George Kelley and Mike Walsh, assistants.

TEDDY TETZLAFF has started a Clarence Badger production, "Fever." His second is Henry Freulich and assistants are Jack Anderson and Keller.

BENNY KLINE winds up another Irving Briskin Meteor production starring Tim McCoy. Ross Lederman the director. Kline's staff: F. Browne, second, Fred Dawson and Jimmy Goss, assistants.



# R BULLETIN

EASTMAN  
FILMS

Films, in Cooperation with The International Photographer

WHO'S WHO!

## LETTER

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## Mascot Serial Finis

Miller has turned in final the Mascot serial which was directed by Al Herman and for Nat Levine, and which the tag of "Whispering Shadows." Associated with Miller on the staff were Vic Scheurich and Lyons, seconds, and Monty Stead-lyns, William Jolley as

## Thompson Again for Foy

Thompson, who is the Number of the camera department at Foy Studios in Culver City, another picture on his home lay after Christmas.

## M.G.M.

NORBERT BRODINE has just finished "Whistling in the Dark," under the direction of Elliott Nugent at the M.G.M. Studios. He was immediately called by another studio (there being no other immediate assignment available at the Metro plant), and probably will be away from his home lot for at least a month. On the Nugent picture Brodine was seconded by Dick Wade and assisted by Roy Noble and Charley Straumer.

The second unit of "Whistling," under the direction of Charley Reisner, is photographed by Charles Clarke, who moved to the Metro plant from Fox immediately upon completion of "Hot Pepper" at the Movietone City plant.

HAL ROSSON is putting the finishing touches on "Pig Boats," the M.G.M. submarine epic. Hal has been so busy (and so have we) that we have not had time to interview him on his impressions of Hawaii, but when we just casually mentioned the subject he coyly closed his eyes and registered high on the red side. Apparently, then, everything was just dandy, and perhaps Hal still has fresh, vivid memories of . . . well—never mind. Why go into that?

OLIVER MARSH continues with "Turn About," the Joan Crawford picture, and as usual is seconded by Eddie Fitzgerald and assisted by Kyme Meade.

MERRITT GERSTAD is turning in the final scenes on the Brabin production, "The Lady." Merritt is seconded by Paul Vogel.

JACK DRAPER, who has knocked about the world for many years and turned a crank in most corners of it, has been handling the photographic assignment here on the second unit of "Turn About." This unit is directed by Dick Rosson. Draper is seconded by Ray Ramsey and assisted by Cecil Wright and Glen Strong.

## Warner Brothers

SOL POLITO is getting first-hand information on the methods of newspaper photographers who get their picture in the Jim Cagney production, "The Picture Snatcher," which Lloyd Bacon is directing. Sol's second is Mike Joyce and Speed Mitchell is his assistant.

SID HICKOX continues on with "Grand Central Airport," starring Richard Barthelmess and being directed by William Wellman. Tommy Brannigan is the second man and the assistant is Wesley Anderson. This being one of those air thrillers we naturally find the old cloud maestro ELMER DYER doing his stuff at a high altitude.

JIMMY VAN TREES finished the George Arliss production "The King's Vacation" and then took one for himself, running away to his mountain ranch in the Sespes, where he will remain until the end of the first week in the New Year. On the Arliss picture Lou Jennings held the spot as second, while Jim Van Trees, Jr. was the assistant.

ARTHUR TODD finished "The Blue Moon Murder Case" on Stage Two and jumped over to Stage Four on "She Had to Say Yes," which is the initial directorial assignment (at Warners) for George Amy, a bright young fella who was for many years associated with C. C. Burr and Johnny Hines Productions. Billy Schurr and Lou De Angelis are Todd's playmates on this one.

CHICK MCGILL took his new Christ-

## EDITORIAL

### HAPPY NEW YEAR!

The Brulatour Bulletin starts its second year.

Its first year has been most gratifying to its publishers and (we are told) its readers. We've had many nice compliments and up to this moment no libel suits. We've made many new friends and no enemies. Mainly (as news) we've stuck to facts and when facts were disregarded we've frankly labeled our items as nice polite gags.

Feature news items in every past issue of The Bulletin have dealt with Hollywood cameramen who have been called (or sent) into foreign fields. These photographers have set up the old

### Movietone City

BUD FISHER, executive directly in charge of the Fox camera department, informs us that George Barnes is turning in his usual high calibre photography on the Lanfield production, "Broadway Bad." Barnes is seconded by Herbert Van Dyke and assisted by Maurice Kains and Ted Wiesbart.

BOB PLANCK is photographing an original Spanish version of "King of the Gypsies," directed by Dick Strayer. Bill Dietz and Paul Garnett are seconds, and Planck's assistants are R. Sherman and F. McDonald.

ERNIE PALMER and L. W. O'CONNELL have finished the final insert in "Cavalcade," the Fox super-production which is scheduled to open at Grauman's Chinese early in January. Palmer has tentatively been assigned to another production tagged "Pleasure Cruise."

ARTIE MILLER has been assigned to Raoul Walsh's next picture, "Bad Boy." Production is scheduled to start any minute.

HAL MOHR has finished production on the Henry King picture, "State Fair," and will see the New Year in "between pictures."

JOHN SEITZ is photographing the Tuttle production, "Dangerously Yours." His second is D. Anderson and his assistants are Luis Molina and J. Van Wormer.

L. W. O'CONNELL will probably be at the camera on Jack Dillon's forthcoming Fox production, "The Road to Heaven."

### Roach Studios

Culver City comedy plant has been very busy during the month of December. Art Lloyd, Hap Dewey and Walter Lundin put on the pressure, however, to get everything finished by December 23, upon which date the studio closed. Will remain dark until January 9.

mas auto and covered most of California over the holidays, but is now back on the job and is photographing Kay Francis in "Keyhole," which is being directed by Michael Curtiz. Kenneth Green is the second and Bill Whitley assistant.

TONY GAUDIO, who has been taking bows right and left on his photographic achievement in "The Mask of Fu Manchu" at M.G.M., is back again at the Warners-First National lot photographing "Ex-Lady." His second is Al Greene and his assistant Johnny Shepek.

\*camera in practically every country in the world—civilized and otherwise. Without exception these men whose trips we have reported have insisted upon Eastman Supersensitive Panchromatic Negative.

The producers spent hundreds of thousands of dollars on these expeditions and the cameramen took no chances. Not a single photographic failure resulted. In every instance the judgment of the cameraman was confirmed. That, good friends, is a record of which to be proud.

In Hollywood this same fine negative clicked through to the extent of many millions of feet as scenes were photographed of everything from animated cartoons to westerns and the most pretentious of the super features.

The cameraman has mastered Eastman fast film. The laboratories have glorified it. The stars have shone more brightly because of it, and hundreds of exhibitors have been complimented by their patrons because of the beautiful screen quality. Eastman Kodak Company has made another splendid contribution to the screen, and we are justly proud of the part we have been privileged to play as the middlemen between the manufacturer and the photographer.

It has always been our aim to render to the photographer and technician a cheerful and helpful service. We have the man power, the knowledge and experience plus an incessant inclination to help in every situation. We try to anticipate your wants and your needs, but if we've unconsciously missed on a few points you'll favor us and yourself by telling us about it.

The Brulatour Bulletin is our public mouthpiece—and yours.



# 'Shooting' Moonshiners Has Risks

Hazard Runs Even When Cameraman Is Native of Feud County in Eastern Kentucky and Works with Revenuers' Knowledge

By PERCY KNIGHTON

**B**REAKING down barrier after barrier to gain an objective at most any sacrifice is the motto of the real adventurer. In this instance the title of the story implies that the risk one has to take is the risk of life itself—and life is very precious to most of us.

At a glance, or rather at the mention of old Kentucky, one readily remembers stories told of the feuds, rebellions and liquor disputes of that section of America. However, let it be fully understood that Kentucky and its folks believe that a certain hereditary right exists regarding the manufacture of the stuff better known as "mountain dew."

Also let it be understood the only methods and means the inhabitants of Kentucky have of making commerce and progress are not this business of moonshining. Perhaps the word progress is the wrong word in a sense. Hence it might be said that Kentucky, with all due respect to all the glorious families and their hospitality, has not changed a great deal in the past years. Conflicting as various opinions may be, Kentucky is reminiscent of

that great poet Thomas Gray and of how he wrote in his Elegy:

Along the cool sequestered vale of life  
They keep the noiseless tenor of their way.

It is very true. Nothing much in the affairs of great world change affects these folk—especially in the interior of Kentucky.

Perhaps we're a little ahead of the story. For there are many thrilling details in the mere idea of trapping Kentucky moonshiners.

## Who's Who in Party

First, there were two young men and a woman involved in the Big Idea.

Being a southerner, allow first mention to be made of the heroine of the drama. Clara F. Borden, a woman with insight into the finer things of life, had confidence in the principle of an idea that embodied the production of motion pictures.

And the confidence will be carried into the affairs of a corporation recently formed in Hollywood to blaze unknown trails in motion pictures. The next well earned compliment may

be given to Joe Lykins, who photographed an incident that has never before been recorded since the inception of the motion picture camera. It just happens the photographer was raised in the feud belt of Eastern Kentucky.

Long live the Borden Pictures Corporation!

After many weary miles of travel over this great continent we arrived close to our destination—the interior of old Kentucky.

Here we found that people lived almost as in primitive days. As we traveled on we learned children were starving; that mothers, prospective and otherwise, were being neglected in almost every modern, human way. Accordingly, all tried to do what we could in our small way to alleviate some situations, but nothing in the form of charity would be accepted.

## Glad Hand Withheld

We argued with one man. We said it is better to have a half loaf than no loaf at all—and he said that for the past thirty years he had got along very well before he ever knew us, so why should he worry about a half loaf or a whole one either. He did not understand our viewpoint.

Besides, every mountaineer we met already had decided that there was no good purpose in our presence there. So naturally we had to be very careful in our movements.

Of course, in some ways slight change has taken place regarding the whisky situation—as for instance, perhaps there are not as many moonshiners operating nowadays as there were a hundred years ago. Naturally, the government has endeavored to destroy as much liquor traffic as possible, but personally I believe the Kentucky folk who make their own moonshine are similar in a way to the Italians—who must have their wine.

Wine to an Italian is like coffee to Americans—hence moonshine to the mountaineer. And there is no argument either with the presses of America or the federal government or the moonshiner.

However, making corn liquor is not the only flourishing occupation of the Southern folk and drinking it is not the only pastime.

After all is said, there are many industries of the South that have absolutely nothing to do with the so-called illicit manufacture of white mule. Kentucky is a beautiful state and its people—especially its women—match the scenery.

After encountering many interesting matters pertaining to the customs and habits of the folk in the interior of Kentucky we bore further and further into the hidden folds and rugged countryside of the mountain.

## Inalienable Right

According to history moonshiners believe the manufacture of whisky is hereditary to an extent and they re-



Photograph of Kentucky moonshiners and officers after an arrest. As many more authorities are standing guard behind them. Percy Knighton and Joe Lykins are in the foreground.



gard such a law of abolition as an intrusion upon their rights. They believe it to be an invasion upon their own American liberty—since crops are often scanty—and that distilling is one of the means by which they dispose of their farm product.

We fully realized it was almost an impossibility to execute our primary idea unless we shadowed some "revenue" as they went on the great hunt for a still. We did this and the officers were aware of it. We were very careful not to jeopardize their intentions or movements in any way, and, by this method of stalking and keeping well concealed in the underbrush and heavy foliage we were enabled to accomplish our purpose.

#### Photographic Troubles

At times, however, it almost seemed utterly impossible for us to gain a vantage point where we might even use a telephoto lens. This we finally did after much difficulty and patience. There were times when we had to climb hills that were almost straight up—so rugged and steep were they that ropes were used and some of our equipment had to be dragged after we got a footing.

We made plenty of noise, and we feared discovery by the moonshiner's lookout man. Had this gentleman ever spotted us it would have been all off—both for us and the authorities.

We were far away when we spotted the moonshiners and we placed ourselves directly between the authorities



*Typical Kentucky family in the deep interior and cabin over two hundred years old. Against the fence in the background is seen a loom said to be over two hundred years old, a historic relic of early days.*

and the distillers—a very dangerous position, and any blunder on our part or of the officers might have proved fatal, as we would have been an excellent target for gunfire!

After securing the picture we lost no time in preparing for immediate return. Jack Nelson will handle the distribution of the picture, which has been recorded on RCA-Photophone.

## *From 'Animal Kingdom' to Thoughts on Judge Wilkerson's Withdrawal*

LITERARY as well as a dramatic gem is RKO's "Animal Kingdom," with Ann Harding, Leslie Howard and Myrna Loy in the top parts. It is rather a long subject, as a real feature should be. It is long, but it does not lag, and after all that is the only test. Easily it should rate as one of the major subjects of a year.

That does not mean necessarily one of the "ten best," for after all what human being whether inside a printshop or outside of it is so endowed with wisdom as unerringly to select out of six or eight hundred subjects the ten that actually stand out above all others? For that matter how many persons see a half of that six or eight hundred in the course of a year?

Why will a producer when a story is running easily and fluently and without a trace of smut suddenly smack into a bit of dirt and leave it to smear the whole subject?

The more smut or off-color wise-cracking there is in a picture the less attention any one instance attracts. Of course, its appearance in any case indicates the belief of the producer that the picture is weak to just that extent, that it requires the assumed boost to get it above the level of

mediocrity over which it is conceded the subject cannot rise.

There's just one incident of this sort in "Animal Kingdom," and emerging from this brilliantly told story it most distinctly creates a false note. It will be interesting to learn what Rockefeller junior said when that false note fell on his ear at the opening of Radio City.

Which suggests that it may be interesting to follow what influence may be exercised on picture stories by the entrance into the industry of the Rockefeller fortune.

\* \* \*

It was the day before Christmas, maybe two days before, when on Santa Monica Boulevard we were hailed by Glenn Kershner. The rain was coming down, and the invitation to enter his car was accepted. An introduction followed to Loring Andrews, musician and author, who has written "Isles of Eden" and "Horizon Chasers" and a third yet to be published. Andrews, by his introducer and also incidentally by his new manager, was described as the man who went around the world on a guitar. It just happened that guitar was in the car. The impulsive Kershner dragged his companion out of the ma-

chine and with him a guitar and an accordion and slipped into the adjoining Eastman laboratory.

There for fifteen minutes Andrews entertained with that guitar so notable for its transportation potentialities, first with a bit of Russian music, then with a Spanish song and accompaniment, and then with a dash of wild stuff from the South Sea islands, his companion meanwhile squatted on the floor and with his flattened hands beating time on the linoleum.

It was in the islands the two men had first met. It easily may be believed these two could highly entertain the simple denizens of the South Seas. They will be able to do it just as certainly on Broadway. The prospects for the future of this new alliance are expanding daily, of this team of grown-ups with the fire and enthusiasm of youth.

\* \* \*

Hardly had we said good-bye to Andrews and Kershner when we collided with J. Stuart Blackton. Congratulated on his remarkable drawing of Edison printed in our December issue and incidentally on behalf of the magazine's readers heartily thanked, the commodore told many interesting things about Edison, with whom in later years he became very friendly as well as closely associated in an industry way.

At the time the drawing was made—it was only a matter of three or four minutes—the artist sought to interview the inventor. He suddenly discovered the questions were being



asked by the unexpected if inquiring reporter. Edison never gave the visitor a chance to ask questions—he kept him busy answering them.

By the way, the commodore is preparing for readers of International Photographer a sketch of the first Vitagraph studio, second only in priority to the Edison Black Maria, a photograph of which was shown in these pages last month. The location was the roof at 140 Nassau street, New York, which as a studio later was succeeded by 116 Nassau. The numbers had interest for this scribe, as he at that time was one of the Press Wheelmen at 120 Nassau who religiously morning after morning watched the sma' hours grow less sma' what with the pasteboards and drinks, etcetera. The honors in these pastimes seemed to fall to the soft or non-riders as distinguished from the hard riders—in other words, for instance, those who participated in century runs to Patchogue, one of them on the hottest day of the year.

\* \* \*

Under the auspices of the west coast branch of the Society of Motion Picture Engineers Walt Disney recently entertained in his studio members of that body and their friends. The session opened with a bit of routine business of the organization. Then came the showing of the first Mickey Mouse comedy in sound. It was "Steamboat Willy," and after four years it still is plenty funny.

Then came the reading by William E. Garrity, chief technical engineer of the studio, of a paper on the making of filmed cartoons. It was disclosed that on the Disney lot sixty animators are employed. Three classifications mark this division of studio activity—artists, animators and artist-animators.

The distinction is that the artists create the designs which the animators follow, and in some instances the artist may do animating. It was pointed out by the engineer that in the interest of cohesion a finished artist entering the studio as an animator must submerge his own style and follow the lines that would contribute to the uniformity of the whole.

It was stated that if an animator during the day had created enough drawings to be translated into five feet of film he had done a good job. That would mean 80 drawings, providing but one were used to a frame, as is not always the case. On the screen three and a third seconds would be required to show them. The number of drawings necessary for a 700-foot Mickey Mouse comedy sometimes runs as high as 15,000. The camera work on the average footage requires 100 hours' time.

After the conclusion of the paper the hundred persons in attendance were thrilled by seeing on the screen the latest Disney cartoon, "Santa's Workshop." It is the last word in sound and color. That means it has been recorded on RCA's Highest Fidelity—and after hearing it reproduced you know that seeming detail means much in the way of entertainment—and it has been photographed

in Technicolor's new three-color system.

The picture has been under way since last August. It is a screen treat the like of which picturegoers never previously have looked upon. In one sequence especially a small army of gnomes are at their benches in the workshop. All of them move simultaneously. Synchronization of the work of artist and musician seemingly is perfect, a matter of large importance in cartoon making, as Engineer Garrity had pointed out.

The outstanding feature of the entire subject is the singing by Santa Claus. The combination of Santa's vivid colors of costume and face and the rare quality of the rich bass voice fitted to the character create an impression that will last a long time.

The second late release exhibited was "Building a Building," in black and white. Mickey and Minnie are shown in adventures around the skeleton beams of a growing skyscraper. It closed a remarkable entertainment.

\* \* \*

Those who for years have followed the encroachments on human rights through the medium of government by injunction will experience grim satisfaction in learning Federal Judge James H. Wilkerson of Chicago has requested President Hoover not to resubmit to the Senate his nomination for promotion to the Circuit Court.

The President in reply deeply regretted the decision of Wilkerson, adding he is "confident the people at large feel as I do about the important and devoted service you have given and the high contribution you have made to the standing of the judiciary of the United States."

Plainly Wilkerson made a virtue of necessity, as there was not a chance of his confirmation. The President must have had his tongue in his cheek when he dictated those bouquets about "important and devoted service" and "high contribution to the standing of the judiciary."

The pliant judiciary committee of the Senate had favorably reported the nomination, but the Senate put it on ice.

Wilkerson's chief offense against the elemental principles of justice ad-

ministration was when in 1922 during the railroad shopmen's strike he played yes man to that fellow legal luminary Attorney General Daugherty and gave life to the arbitrary injunction demanded by the latter.

Even the so-called conservative United States Senate is beginning to listen to reason, not because some of its members enjoy any less the doing of substantial favors for their important corporate friends and mentors, but they do enjoy the more a little longer keeping outside the breastworks of the lame duck battalion. It is only when by the people they finally are lifted into that category that many "servants of the people" really become good Senators.

Government by injunction has been a thorn in the side of the workers for forty years. It was an outcropping of the growing machine age. It sought to control by chicanery, by conspiracy between corporation and corporation-owned bench, what it could not control in the open.

It aimed to and actually did, by the mandate of a single judge, automatically denominate a felony that which the laws of the land declared to be entirely legal. And when some deluded but persistent soul insisted on continuing to do what the laws of the country permitted him so to do, wrongly assuming he had the "inalienable right" of a citizen so to do, he found himself unceremoniously hauled into court—the court of the injunction judge and never any other—and without a chance of trial by jury was sent to jail as a felon because the judge said he had violated the terms of the injunction, his injunction—in other words, his crime was contempt of court.

The President may have been right when he said "the people at large" would join him in recognizing the "high contribution" Wilkerson had made "to the standing of the judiciary of the United States." Yes, and it is entirely within reason that some of those still "at large" should be on a rock pile expiating in an infinitesimal degree some of the high crimes they have committed against the rights of American mankind guaranteed by the character of its liberties. G. B.

## The Joys of Christmas

THE Night Before Christmas after all is done—the tree has been set up and all our heart gifts have been spread about. Then do we sit back for a few moments and reflect. And turning back the Leaves of Times we wonder which of all Christmas days were the happiest in our lives.

Was it when we ourselves were but small kiddies and with anxious heartbeats the Night Before Christmas we were sent off to bed early, awakening Christmas morn with gladness and shouts, squatting ourselves on the floor in our nighties with no thought of breakfast. Or—

Were we happier when in our earlier married life we repeated the same story of the Night Before Christmas for our own first born, as our own parents did for us. Or—

Are we happier now in the twilight of our lives repeating the same story this Christmas for our grandchildren?

Yes, I wonder at which age did we derive the most happiness. But reflecting upon it all Christmas does bring joys to gladden our hearts, regardless of age, whether it be one year or seventy.

J. JAY CASTLE.





# *Cream o' th' Stills*



*Gordon B. Pollock brings back from Paris with him this reproduction of the colonnade of the Hotel Crillon, a structure that sheltered so many American notables during and after the war.*





# *Cream o' th' Stills*



*Joe Brown and  
Ginger Rogers  
on shipboard  
Catalina bound  
rehearse for  
First National's  
"You Said a  
Mouthful." Photo  
by Scotty Welbourne.*

*One of the  
sequences in  
R K O's  
"No Other Woman"  
which if memory  
serve landed  
on the  
cutting room  
floor. John Miehle  
photographed the  
still at one of  
the steel mills  
near Los Angeles.*







# *Cream o' th' Stills*



*Ordinarily  
the still man  
is accustomed  
to exploiting  
every one but  
himself. Here  
we see  
Anthony Ugrin  
as he shoots into  
a lamp reflector  
on a Fox set and  
catches a company  
—or all but one  
—unaware of his  
action.*



*Ray Nolan  
shows us a  
Fox company  
in Catalina  
working in  
"Burnt Offering."*





# *Cream o' th' Stills*



*And here is a breath from Havana, from the camera of Esselle Parichy, showing flamingoes doing their stuff on an extensive estate.*



# NEWSREELERS' DOPE SHEET

By RAY FERNSTROM

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YOU fellows all know that nerve wracking moment, just as the horses are at the barrier, our thumbs snapping the camera button on and off; that same tense second as we wait for a parachute jumper to leap, as we worry about enough film; that same tenseness at the kickoff at the football games—you get the idea?

Well, gang, let me tell you, there is nothing worse than your first time "on the air."

Our newsreel of the air went out from KFI, Los Angeles, over the coast facilities of NBC, Tuesday, Dec. 6, at 8:15 Pacific time. Get that, 8:15.

At 8:10 my knees shook. The signal came at 8:12—"Three minutes." A few last minute orders, that I was too nervous to hear. "Fifty-eight seconds."

Wow! I shook all over—my throat muscles froze, the blood went to my feet and cold sweat trickled down into my eyes.

Some cheerful cuss had said: "Remember, if you make a mistake, everyone listening will hear it, and no one can correct it."

That's all my head contained, "Don't make a mistake."

What blessed moments while the announcer broke the news—a few precious seconds in which I tried to get courage from his poise, ease and diction.

How I hated him, Don Wilson, for his composure while I quaked at his side.

He said something about newsreelmen, thrills, adventure, daring, etc., blah.—What a daredevil I was—and there was I scared to prostration by a single microphone.

## A Haze Descends

"And at this time I turn the microphone over to—to—Ray Fernstrom."

It's a good thing I had a chair to lean on or I'd have fallen.

The rest of our thirty minutes on the air I can't remember. It's like one of those alcoholic attacks from which one emerges as from a fog, without a memory.

The second broadcast went off easily—just as the coverage of a news story is simple once the nervous "tape" is broken.

Listen in, gang—every Tuesday evening. And then drop KFI a line. They'll appreciate it.

Last Tuesday (Dec. 13), Sanford Greenwald of Los Angeles Paramount News appeared on the air, as guest speaker. Listen each Tuesday and we'll try to please you.

Felbinger and Lippert heard KFI in Chicago and like pals sent us a wire. Boy! did it look good. KFI is a 50,000 watt station, so you sound men ought to reach out for it.

You fellows will be interested in our sound effects. They are made by the past master of the art, Charley Forsythe. The continuity and direction are by a chap who acts, looks and sounds just like a typical newsreeler—Dave Ballou, and is that guy keen!

Well, gang, let's get together—and sit down and write us.

## Night Shots with Contax

I shot some tests with Du Pont Superpan negative at night and obtained some excellent results, using the new Zeiss Contax camera.

Now for this Contax. After using it a week it's now my favorite.

First: It loads like any simple folding camera. You see the film from magazine to magazine. There are no failures in loading. It is fast to 1/1000th of a second. It is possible to reload without rewinding, a good wrinkle for all of us. There is a daylight magazine at each end. Just shoot and reload as fast as you wish. Then, too, if you are making tests on different negatives you can extract the two magazines in the camera and reload with others containing other film without rewinding or cutting the negative. The all-metal focal plane shutter is another desirable factor. It can be operated with one hand, a good feature for newsreel men.

## The Real Newsreels

Now for the newsreels and reelers. There seems to be a general tendency, in various columns, fan magazines

and newspapers, to criticise the newsreels of today. They say newsreels are monotonous, faked and nothing but repetitions year after year.

Is this so or not? Let's look at them. Yes, there is a bit of repetition, but doesn't news repeat itself? There are groups of annual events that are of course covered in the newsreels—Kentucky Derby, World Series, navy practice, West Point parade, etc.

They happen annually, so naturally such events are covered annually. Granted. Now are these subjects covered differently each year? The answer, you know, is No. That's thanks to sound equipment, as we all know.

Newsreels are about 25 years or so old, and the public has seen such events repeated for just that length of time.

There is talk of cycles in picture production, five or seven year cycles, but newsreels turn in yearly cycles.

## Faking Is Out

Out of the ordinary news spring from the mind of cameramen and contribute about 50 per cent of the novel material we see on the newsreel screen.

I appreciate the dearth of new, novel material, whether comical, spectacular or spot news. The magazines and newspapers supply the other half of new stuff. As for faking: Such never finds its way into newsreels.

That is one accusation I cannot understand and will fight as long as there are newsreels.

No news event, whether spot or feature, where the men risk their necks to get results, can be called faked, and such cracks be got away with.

I have only to think of Charley Traub and the auto speed trials at Daytona to go to bat for the gang.

Every time I have read such cheap talk in public prints I have answered



Shot on DuPont new superpan with Zeiss Contax camera. The only daylight interior comes through window. Note detail in deep shadows.



to the best of my ability and will continue to do so.

Now for ideas that may form novel news stories.

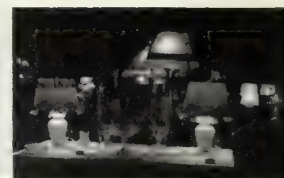
We have used blimps for every purpose of news. The next logical step is the use of the auto gyro for news. Here we have a faster, more agile aircraft than even the smaller blimps.

#### Auto Gyro Real Bet

An auto gyro can pick a man off a skyscraper and deposit him on a ship. It can make any of the old transfer jobs better than plane or blimp and be more spectacular than either on account of that funny vane on top.

There's a great act in the auto gyro, and the possibilities have only been scratched.

With the advent of the new doughnut tires on automobiles why has no newsreel shown us a cross-country race with these funny tires? They can plow over soft ground and get out of ditches like tanks. They are the funniest things imaginable in slow motion when a car jumps a hurdle. In slow motion the manner in which they flatten out on landing is a scream.



*A store window shot with superpan in Contax*

An award to a newsreel crew could be made, for example, to that one responsible for the year's outstanding newsreel scoop.

Scoops are what newsreelers are ready to give almost their lives to accomplish. To them they are part of the day's work, but to newsreels they are as life blood.

Newsreels have been taken too much for granted, yet many lives have been given to make them possible.

#### How About Newsreelers

After the inspiring broadcast nationally of the awards by the Academy of Motion Picture Arts and Sciences, wouldn't it be great if that

august body should recognize the newsreels?

Perhaps the oldest branch of the industry, the newsreels, were not mentioned, but I'm sure they will be considered in the future.

It would be almost impossible to review all the 104 issues a year from each producer of newsreels, in addition to the other tasks of the Academy.

It would, nevertheless, be fair and possible to judge a representative number from each company and make an award to the company and individual employees whose newsreel has been rated best for the year from the standpoint of scoops, photography, sound, etc.

## Motion Picture as Well as Still Cameramen Interested in Contax

By JACKSON ROSE

CAMERAMEN are bound to be interested in the new Zeiss Contax Camera which recently has reached this country. It possesses advantages that will appeal not only to still cameramen but to motion picture photographers as well by reason of its being fitted with speedy Tessar lenses similar to the ones employed on their motion picture cameras.

It may be used as part of standard

equipment for experimental and testing purposes of new film emulsions, filters, lighting apparatus or process shots. For still cameramen of course there is the advantage of almost forty exposures to be made from one loading. As the camera is practically noiseless and unlikely to interfere with the microphone still pictures may be made during work on the set.

For fast action the camera has a

metal focal plane shutter that operates from a twenty-fifth of a second to a thousandth part. Also it may be set for time.

The pictorialist will like it because it offers the possibility of carrying without inconvenience film for 100 exposures as well as accessories.

Among its many features are its extremely strong construction and the direct coupling of the range finder with the lens focusing mechanism. The range finder as well as the shutter release are so designed that one finger easily can operate both.

Double exposures with the Contax camera are impossible because of an ingenious coupling of the shutter with the film transport. It is equipped with bayonet type mounting by which all lenses can be attached or detached in a fraction of a second. The selection of lenses vary from 30mm. to 135 mm. and from speeds of F1.5 to F4, and of course are of the quality that comes with Zeiss Tessars.

Another desirable feature is the easy loading method. To load the camera one has but to remove the back, place the film on the sprockets provided for it, eliminating all possibility of error, especially since it is not necessary to respool the film that is exposed. The exposed film can be wound into another magazine eliminating rewinding. This camera also has a depth of focus finding scale where one can see just how deep or shallow his focus will be regardless of size of lens used.

#### Rex Ingram in Again

Rex Ingram is returning to pictures with Gaumont-British. "Baroud," his first production, has been completed in Morocco and will be shown in the United States shortly.

In addition to directing, Ingram played the leading role, making his first appearance before the camera in several years.



*Each of these stills was from enlargement of Contax negatives of two frames of motion picture film to 8 by 10. Photographed by Mr. Rose.*



## Veloy Enlarger Marketed by Leica

### Has Many Photographic Advantages

LEICA and all miniature camera owners will be glad to learn of an improved enlarger which is more versatile than former models. This is known as the Veloy enlarger and may be equipped with masks for single motion picture frame negatives ( $\frac{3}{4}$  by 1 inch), Leica negatives (1 by  $1\frac{1}{2}$  inches), and roll film miniature camera negatives ( $1\frac{1}{4}$  by  $1\frac{1}{2}$  inches).

An ingenious device assures that the negatives remain perfectly flat during the exposure. Yet when the film roll is to be shifted to another picture a lever is merely pushed and the film is free to be pulled through the gate in either direction without danger of scratching or removing from the gate. This action facilitates rapid working and will be found of great value.

The condenser acts as the pressure plate and holds the film firm and flat during exposure. It is easily removed for cleaning.

A roomy lamphouse incloses the 75-watt opal lamp which is adjustable as to distance from the condenser. Large cradles are mounted at each side of the gate which serve to hold the film roll while the enlarge-

ments are being made. The lamphouse unit and the film cradles are finished in black crystal enamel.

A nicked metal pillar supports the lamphouse unit over the generous baseboard. The electric cord is carried inside of the pillar, thus being concealed and kept out of the way. The cord runs under the baseboard, and hence can not interfere.

Four different paper-holders are available which may be placed upon the baseboard.

An interesting feature of the Veloy enlarger is that the various Leica lenses may be used in it. The Elmar F:3.5 lens is suggested for all-around use as longer focus lenses demand a greater working distance from the paper. A special screw-mount is supplied which permits Leica Camera

lenses to be mounted in the enlarger. A magnifying glass, mounted upon a universal joint can be mounted on the baseboard. It serves to assist in obtaining critical sharpness of the image on the paper.

#### The Front Cover

THE General Sherman Tree was discovered by James Wolverton, hunter and trapper, August 7, 1879, at which time he named the tree in honor of General Sherman, under whom he had served during the Civil War.

The dimensions of this tree are: Height, 280 feet; base circumference, 102.8 feet; base diameter 32.7 feet; greatest diameter at base, 36.5 feet; circumference 6 feet above ground, 86 feet; diameter 6 feet above ground, 27.4 feet; diameter 100 feet above ground, 17.7 feet. The tree is said to be the largest and oldest living thing in the world.

At the right are the Twins. Photographed by George Scheiber.

#### CRESCENT BROKERAGE CORPORATION

Gustave A. Blumenreiter, President

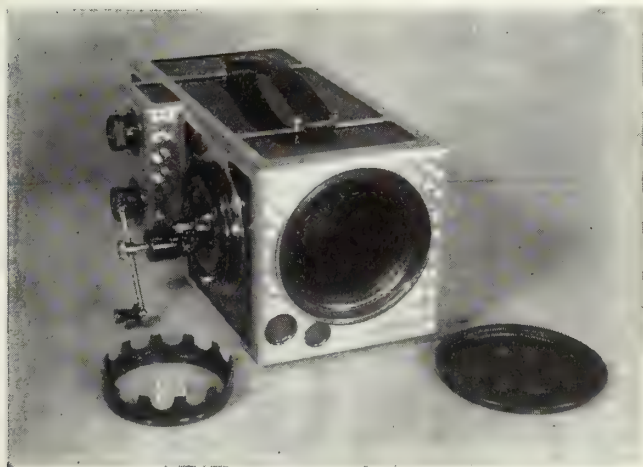
INSURANCE IN ALL ITS BRANCHES  
SPECIAL SERVICE FOR CAMERAMEN

Rolan C. Kennell, Manager

416 W. 8TH ST., LOS ANGELES

TRINITY 8677

## ★ B & H COOKE VARO LENS ★



A view of the Varo lens showing general construction

## BELL & HOWELL

### ★ COMPANY ★

1849 Larchmont Ave., Chicago; 11 West 42nd St., New York;  
716 North La Brea Ave., Hollywood; 320 Regent St., London  
(B & H Ltd.) Est. 1907

PHOTOGRAPHIC efforts hitherto impossible or at best only indifferently accomplished are daily being created in the leading studios by the spectacular new B & H Cooke Varo Lens. This lens varies focal length and magnification while retaining critical focus and while changing iris setting with focal length to retain correct exposure. Thus it permits zooming up to and receding from a subject without moving camera or subject. Long distance shots are being resolved, without a break, into excellent close-ups, and vice versa.

*Write for complete data and prices. Available on rental to responsible studios in Hollywood.*

#### Cooke Speed Panchro and Panchro Lenses for today's exacting requirements

Bell & Howell Cooke F 2 Speed Panchro Lenses are especially corrected for incandescent lighting and panchromatic film. With the 3-inch lens working at its maximum of F 2 critical sharpness with modern lighting and film is obtained with a maximum tolerance in focus of but .001-

inch. Speed Panchro lenses are made in eleven focal lengths ranging from 24 mm. to  $4\frac{1}{4}$  inches.

Cooke F 2.5 Panchro lenses offer the same remarkable correction as the faster Speed Panchros. Seven focal lengths from 35 mm. to  $6\frac{3}{8}$  inches.

*Write for complete data and prices.*



# Looking In on Just a Few New Ones

## THE DEVIL IS DRIVING

First cameraman, Henry Sharp; operative cameraman, Milton Krasner; assistant, Irving Glassberg; stills, Elwood Bredell; sound, Harold Lewis.

**A**CTION aplenty there is in Paramount's "The Devil Is Driving." It is a melodrama of the Harry Joe Brown idea of craftsmanship, although this time this ace of motion, of movement, is listed as associate producer, with Ben Stollhoff doing the directing. The picture is one over the merits of which respective heads of some families will differ sharply—the man maybe insisting the show is "just great," the woman that it is "shameful," with its murders and car stealings, its reckless driving and its drinking.



Henry Sharp

And there you are right smack on the inside of one breakfast conversation. But you see only one member of the particular tribe has been sitting in on some of the very active propaganda now being conducted against present day pictures as a whole. And while this situation is another story nevertheless it is one the wiser heads of the industry must face sooner or later, the sooner the better.

It is a cast of screen veterans selected to sustain the dialogue written by Louis Weitzenkorn from the adaptation by P. J. Wolfson and Allen Rivkin of Frank Dazey's story. Not all of the veterans are listed, either. Among those well known to picturegoers of another day may be noted King Baggett, Universal's long time star and director, and Paul Panzer, Pathe's villain of the pioneer serials.

Edmund Lowe as Gabby, automobile mechanic, heads the cast, with Wynne Gibson, favorite of an underworld chief played by Allen Dinehart, bracketed with him.

Then there are James Gleason as a garage foreman, Lois Wilson as the foreman's wife, and Dickie Moore as the child of the two. Upon these three rests the portrayal of the home atmosphere. Lowe as the brother of the child's mother becomes the avenger of his brother-in-law's murder.

Lovers of clever dialogue even when between a wisecracking male flirt and a keen-witted female of the world with her heart set on the unimpressed former are going to be really entertained. Much thought has been given to the talks between Lowe and Gibson and with excellent results for those who enjoy a bit of spice.

There are no dull moments in this picture. The finish is of the smashing order—especially when a car rapidly descending a winding driveway in a multiple-storeyed garage collides with one ascending at an equal clip. There

## By GEORGE BLAISDELL

is a thrill as we look into the well and see one of these machines drop from near the top to its smoking ruin at the finish.

In fact thrilling automobile collisions so pile one on the other an ordinarily placid reviewer is moved to remark at the close he is not so keen on driving home.

## HANDLE WITH CARE

First cameraman, Arthur Miller; operative cameramen, Robert Planck and John Schmitz; assistant, Luis Molina; stills, Clifton Maupin and Joe List; sound, Al Protzman.

**W**HEN Charles Chaplin interfered with some well-laid plans to push his two untried sons on to the screen he may have performed a distinct service for the benefit of picturegoers. At least the outcome of the making of Fox's "Handle with Care" makes that situation possible. For one of the infants substituted for the younger infant of the comedian in the view of many of the multitude who see the subject not only will "hog the show" but most larcenously retain it from the fall of the flag to the melodramatic finish.



Arthur Miller

When the feminine side of this department reviewed RKO's "Little Orphan Annie" a couple of months ago the opening sentence suggested that a certain young fellow by name Buster Phelps, his age about five years, had crashed the movies—and how! The chance was taken of making mistakes in declaring after seeing but a single performance he was the most irresistible youngster seen on the screen since the inception of sound pictures—or before.

The work of Buster as the kid in "Handle with Care" solidifies and fortifies all that was said on that occasion. When Buster takes the stage he holds it like a veteran character player. Not even the fierce cross-examination of the police sergeant as the picture opens disturbs this imperishable imp.

The dominance of the child makes it a bit hard for the popular Jimmie Dunn as well as Boots Mallory, leading woman. It is the first time this reviewer has seen this wholesome appearing young woman, but her screen success would seem to be assured. The two are excellent. El Brendell as a chef turned music teacher is really human and not only to be tolerated but liked; he is not as too often has been the case made to portray a silly arse.

There's a spectacular street chase in which hundreds of children take part, and by means of trick mirrors a

child's nightmare is most intelligibly visualized.

Simply because of the dominance of a child no exhibitor should permit himself to be misled by any adverse comments on the picture. By seeing it for himself he may avoid the loss of a profitable and praiseworthy engagement.

David Butler convincingly directs his own story, on which Frank Craven and Sam Mintz did the adaptation.

Probably no one watching this picture will be quite so interested in it as Charles Chaplin. Inevitably he will recall "The Kid." He might even turn over in his mind the possibilities of remaking in sound that marvelously moving tale of a child and a man.

## ROCK-A-BYE

First cameraman, Charles Rosher; operative cameraman, Frank Redman; assistant, Cecil Cooney; stills, Robert Coburn; sound, George Ellis.

**T**HERE would seem to be present in RKO's "Rockabye" not so many elements indicative of large popularity. To be sure, fortifying Constance Bennett are among others Paul Lukas and Joel McCrea. So far as cast be concerned these two weigh heavily in the estimation of any showman. Then there is added to these Jobyna Howland in the guise of the heroine's mother—a corking interpretation of the femme souse no longer youthful but nevertheless plenty pushful, even dominating. And for a brief appearance there is Charles Middleton as the inquisitive district attorney.



Charles Rosher

There is an infant in the cast—one a trifle too young to understand quite what it is all about in spite of her many engaging qualities.

The picture opens slowly, which is always quite all right, but fails to gain momentum until near the closing sequences. There is an absence of appeal or intense interest throughout the greater part of the story.

The heroine is shown as one possessed of the mother urge—as a woman obsessed by the idea of adopting a little girl, the consummation of which is thwarted by too much attention from the press in a court case in which she is more or less an innocent bystander.

If the heroine is blessed with the face of a typical mother then it may be conceded she is properly cast. On the other hand if she has the face of a typical mother then most assuredly in a majority of her preceding stories has she been most woefully miscast.

George Cukor directs the script of Jane Murfin, who made the adaptation from the play by Lucia Brender.



## HE LEARNED ABOUT WOMEN

First cameraman, Charles Lang; operative cameraman, Robert Pittack; assistant, Clifford Shipser; stills, Earl Crowley; sound, Gene Merritt.

HERE'S another character woman comes into her own in Paramount's "He Learned About Women." To be sure, she's been on her way for quite some time, has this Alison Skipworth woman, but this time it would seem she has landed solidly. With George Raft in his first featured part she did a good piece of business. In the present instance she shares honors with the lead, Stuart Erwin.

The subject is a comedy, a trifle extravagant at times, but always mirthful, or nearly always anyway, and when it isn't it is straight melodrama. There's quite a bit of the latter in the closing sequence, in which we find a throng battling another throng, all for the possession of a girl and a hundred thousand cold cash.

Stuart Erwin is the chief player. He is shown as an exceedingly wealthy bookworm advised by his lawyer to get out in the world and meet humans. The advice is accepted and immediately things begin to happen. Without loss of time the benevolent young man becomes a prey of swindlers.

Sidney Toler as the butler-advisor assigned by the family lawyer the better the bookworm client may be guided in the paths of sophistication contributes much to the fun of the show.

Susan Fleming as Joan, the youngster who falls in love with her benefactor and refuses to see him swindled, grows in strength from a rather slow start.

Lloyd Corrigan directs from a screen play by Harlan Thompson and Ray Harris.

## ROBBERS' ROOST

First cameraman, George Schneiderman; operative cameraman, Charles Fettes; assistants, James Gordon and Louis Kunkel; stills, Bert Lynch; sound, Bernard Freericks.

LOVERS of westerns are going to find in Fox's "Robbers' Roost" pretty near all the elements that go to make a hundred per cent presentation of that particular brand of screen entertainment. In the first place it is a Zane Grey story. You all will admit that is something. Then again it is an original for the screen. And that means the tale is nearer the final requirements when it leaves the hands of the author, more nearly approaching the unified product of one man than is possible where it passes through the hands of several.

The subject has the tempo, or better still the speed, of the western. There is a convincing cast, and its members look the parts assigned them. The

direction is excellent, the Arizona locations are superb, to speak with conservatism, and the photography matches both.

There is a romance between a cowboy possibly apart from his fellows and yet one of them on the one side and a girl of what she herself might describe as position and family, the former discreet if not human and the girl nearly always human if hardly ever discreet.

The background for the romance as for the tale as a whole is a mountain ranch owned by an Englishman who is not a rancher and who among his employees including his foreman unwittingly harbors a crew of professional rustlers. The sister of the rancher comes from England to visit.

George O'Brien is the top player hired by the foreman shortly before the intended departure of cattle and crew and who finally interferes with the consummation of the plans of the foreman. Maurine O'Sullivan is the maid from England who comes to visit her brother.

Louis King directs from Dudley Nichols' adaptation of Zane Grey's story.

## NO OTHER WOMAN

First cameraman, Ed Cronjager; operative cameraman, Joe Biroc; assistant, George Discant; stills, John Miehle; sound, Clem Portman.

YOUR woman's club is going to look askance at RKO's "No Other Woman," many members perhaps going so far as to declare that sort of thing may be all right for those who like it, but for them—No, sir. To be sure it may strain the female credulity to understand how a woman will condone a distinct case of infidelity one time. Quite naturally when by the story the wife is made to condone that sort of thing the second time, and on the second occasion the husband seeks to procure a divorce so he may marry the "other woman," it is understandable why the blow-up. To the egotistical male the procedure may seem quite the ordinary thing, even though he may have tried to make it work and failed.

Nevertheless once the premises are accepted the tale is strong melodrama. Undoubtedly nine out of ten men so will construe it, and will praise it accordingly. The women will go to see Irene Dunne, and well they may. She adorns her work with the real feminine touch, whether the character be gay or dark.

Charles Bickford is the mill worker who becomes a Pittsburg millionaire, a qualification which seems to bestow in life anyway certain authority for riding roughshod over women as well as men. Bickford plays his part to the hilt. Eric Linden has a role of a human being, and for once it is a pleasure to see him so cast. He plays

it as naturally as he does the dirty-dog heavy or whatever the part may be. Gwili Andre is the "other woman," and in spite of her frigidity and aloofness nearly gets her man.

The tale is from Eugene Walter's play "Just a Woman," from the story by Owen Francis. The adaptation was by Wanda Tuchock and Bernhard Schubert. J. Walter Ruben directed.

## THE WAX MUSEUM

First cameraman, Ray Rennahan; operative cameraman, Roy Musgrave; assistant, Sam Brooks; stills, Scottie Welbourne; sound, E. A. Brown.

STRANGE may it seem that beauty and horror intermingle, but that is not an unfair statement to make regarding Warners' "The Wax Museum." The beauty of the subject is markedly enhanced by the use throughout the entire footage of the Technicolor process. Particularly does the factor of color lend itself to the heightening of the color and the lifelikeness of the wax figures. This effectiveness is most noticeable during the destruction of the figures in the museum by fire. The melting of the wax under the flames and the consequent distortion and disintegration of the lifelike faces make the crime of the incendiary seem all the greater.

The acting honors go to Lionel Atwill. Those who loudly proclaim the stage has nothing to bring to pictures on the human side will never fortify their absurd arguments by citing Atwill. It is a performance that stands out in any company or attempted comparison. And in a highly melodramatic part there is not a trace of the "tearing to tatters" that so frequently accompanies such sequences.

Michael Curtiz directs this strange story of a maniac who by his weird process transforms to living wax the face and figures of those he has selected as victims because of their resemblance to famous characters in history. The worse half of Dr. Jekyll pales into insignificance beside the fiendishness of Igor. Yet that phase of the character is practically hidden until the end because of the outwardly benevolent manner of the wax museum head. Curtiz's work is well done.

Other players in this tale adapted by Don Mullally and Carl Erickson from Charles Belden's play are among the principals Fay Wray, Glenda Farrell as a woman reporter who finally does perform at a typewriter the last few feet of the story, but who most of the time is performing as a news hound, and Frank McHugh as city editor or maybe managing editor but who describes himself as the editor. He's plenty chilly, as it seems a screen editor must be. Holmes Herbert as the tool of Igor also makes a distinct hit.



Charles Lang



Ray Rennahan



Edward Cronjager



## HARD TO HANDLE

First cameraman, Barney McGill; operative cameraman, Kenneth Green; assistant, Bill Whitley; stills, John Ellis and Scotty Welborn; sound, G. A. Riggs.

THE relation between title and text in Warner Brothers' "Hard to Handle" is not exactly clear. The genesis of the thing probably will be found in the assumed box office advantage of a striking caption for the first James Cagney picture following his return to the fold. The trade quite well understood it was the Warner attitude that Cagney was hard to handle.

If the young man off the screen is as good a salesman as he is on it very likely the humor of the title appealed also to him and as the good business man which he seems to be he very quickly sanctioned it. There would seem to be no question that Cagney stands out as the best fast talking screen salesman. There was a premonition of this in his somewhat brief conversation with George Arliss in the picture in which the great English actor portrayed a millionaire turned gas station proprietor.

Cagney's work in the subject stood out as one of the features of the story. It is doubtful, though, if in the present tale as adapted by Wilson



Barney McGill

## REVIEWED NEXT MONTH

NEXT month's reviews will include the Schulberg-Paramount "Mme. Butterfly," with a new Sylvia Sidney, a representative motion picture skillfully and beautifully made, demonstrating what may be accomplished by an honest to goodness motion picture maker when he is thinking in terms of one picture rather than a dozen at the same time; First National's "Ladies They Talk About," the tale written by Dorothy Mackeye around the prison ward, a subject described by Miss Boyce as "a mighty entertaining play," and Paramount's "No Man of Her Own," with Clark Gable and Carole Lombard, a subject that will rate perhaps better than average and with an exceedingly happy and wholesome ending.

Mizner and Robert Lord from Houston Branch's story the young man's popularity as a screen hero will be heightened.

The base of the tale is of a fast-thinking, fast-talking and not over scrupulous publicity man. Given the right medium there will be no question but with Warners will be repaid financially for its decision to reinstate this young man.

Ruth Donnelly as the fond mamma easily carried second honors even if at times between the story and the director her character seemed to be a bit overdrawn. Mary Brian is the daughter for whom mamma promotes the best financial prospect. Mervyn LeRoy directed.

## UNDER COVER MAN

First cameraman, Victor Milner; operative cameraman, William Miller; assistant, Guy Roe; stills, Earl Crowley; sound, J. A. Goodrich.

EVEN though one is not a gangster photoplay addict he'll find Paramount's "Under Cover Man" mighty entertaining. A plot that is intriguing is handled by a skillful cast.

Here we are shown that when gangster hunts gangster he does not always start out with a machine gun. Sometimes he becomes an under cover man, working with the police, but without police protection. It is thus that George Raft in the role of Nick Darrow hunts down the murderer of his father, Gentle Nancy Carroll as Lora Madigan, whose brother also has been a victim, is persuaded to join Nick in his search.

As in most screen plays of this type it might diminish your enjoyment to know too much about the plot. Suffice to say that Gregory Ratoff convincingly depicts a gangster with a mean disposition; Lew Cody equally well depicts a pseudo gentleman with a gangster disposition and a weakness for a fountain pen that does not write. David Landau as Inspector Conklin is well worthy of mention.

The story is by John Wilstach, adaptation by Thomas Burtis and screen play by Garrett Fort and Francis Faragoh. James Flood directs.



Victor Milner

## When Seen Through Feminine Eyes

By HELEN BOYCE

## A FAREWELL TO ARMS

First cameraman, Charles Lang; operative cameraman, Bob Pittack; assistant, Clifford Shirpser; stills, Sherman Clark; sound, Harold C. Lewis.

ADAPTED from Ernest Hemingway's novel, one of the best sellers of the year, Paramount's "A Farewell To Arms" will probably approach the same class from a box office standpoint. In a preview audience many of the women, including the reviewer, apparently were experiencing trouble with their eyes. The men seemed to be contracting colds. But it was well worth it.

Primarily, as the title implies, it is a war story, but a war story of the kind that would tend to end wars. It also is the love story of Catherine Barkley, a nurse, and Lieutenant Frederic Henry of the Ambulance Corps. Helen Hayes is the nurse who loves Frederic more than duty, and after seeing Miss Hayes in this screen-play there seems to be little doubt about the good judgment of the Academy. Gary Cooper is the gallant lieutenant who loves Catherine more than the war.

Major Rinaldi, who modestly admits he will one day be the greatest surgeon in the world, is splendidly por-

trayed by the suave Adolphe Menjou. It is he who introduces Frederic and Catherine and then nonchalantly stretches his official authority to aid "Bebby" as he affectionately calls Frederic.

The most appealing thing about the play is that the characters seem to act as normal people would. They have the strength and the weakness of ordinary human beings, and after all isn't it people of this sort that we can best understand and appreciate? There are no glamorous gestures about the war.

When Frederic hears that Catherine is in trouble and needs him he promptly makes plans to find her, nor does he pretend to "love duty more." When the Major finds that Frederic needs protection after his seeming desertion he has no hesitancy in coming to his aid, even to the point of embellishing the story with a case of lost memory.

Those who like a happy ending may be disappointed, but the exquisite photography in the final fadeout will more than repay for the usual happy ending.

In the screen adaptation Benjamin Glazer and Oliver H. P. Garrett have followed the book as closely as possible. Frank Borzage directed.

## FRISCO JENNY

First cameraman, Sid Hickox; operative cameraman, Wesley Anderson; assistant, Tommy Branigan; stills, Joe Hommel; sound, Dave Forrest.

WARNER'S "Frisco Jenny" is more or less a combination of "Madame X" and "The Right to Love." If you liked either (and who didn't?) you'll register enthusiasm over Ruth Chatterton as Jenny, the daughter of a saloon keeper on the Barbary Coast. The rest of the cast will do much to heighten that enthusiasm.

The action starts back in 1906 with all the frills and furbelows that were so popular then. Jenny loves not too wisely Dan McAllister (James Murray), a violin player in her father's saloon. The San Francisco earthquake occurs at a most inopportune time and Dan is killed. Helen Jerome Eddy is Amah, the Chinese servant who befriends Jenny when her child is born.

Louis Calhern as Steve Dutton, a rising attorney who is not averse to



Sid Hickox



imal Kingdom" Miss Harding eclipses anything she has done before; it is her piece de resistance. This statement in regard to many might be termed comparative; about Miss Harding "It's all there is."



George Folsey

The play, written by Philip Barry, is worthy of the talent that makes the screen adaptation by Horace Jackson so superb. Edward H. Griffith directs. It will be recalled that Mr. Griffith also directed "Holiday," in which Miss Harding scored such a triumph in the early days of sound.

There are only ten persons in the cast. While the quantity is small the quality will be remembered. Leslie Howard is Tom Collier, the lovable, rather dignified Bohemian who aims to run his own life—and the Bantam Press.

His true sense of values is for a time overshadowed by the charm of the seductive Cecelia, whom he marries. And who could better portray Cecelia than Myrna Loy? Daisy Shane is the woman who understood. William Gargan is Regan, an expugilist who had broken his hand and now is serving as Tom's butler, never forgetting to serve himself with the rest.

The story rather reverses the conventions, but not with the least evidence of bad taste. The title, which may be misleading, is derived from the fact that we are all of the animal kingdom—only some of us more so. It is handled, with one or two excep-

tion, woods is Joe Ryan, the bad man. Then there are owls, queer noises, sliding panels, concealed passages and a black-robed ghost to produce thrills and chills.

The youngsters will like this one and parents will welcome it as a good clean Western.

#### ISLAND OF LOST SOULS

First cameraman, Karl Struss; operative cameramen, George Clemens and Otto Pierce; assistants, Fleet Southcott and Paul Cable; stills, Mack Elliott; sound, M. M. Paggi.

**S**HOULD you have been imbibing too freely and then sit in on Paramount's "Island of Lost Souls" you'll probably climb up on the wagon for a long time to come. One wonders if the whole thing is not the hallucination of a fevered mind. Pink elephants are just tame little fireside pets compared to the grotesque things you will see in this picture. The screen play by Waldemar Young and Philip Wylie is adapted from a novel by H. G. Wells. Mr. Wells evidently got started and forgot to put on the brakes. Erle Kenton directs.

Charles Laughton makes a polite but vicious Dr. Moreau, who had found London an unsafe place in which to conduct his experiments. He retires to the seclusion of an uncharted island in the South Seas accompanied by Dr. Montgomery, who has been guilty of a professional in-



Karl Struss

several shorts with Arabian dialogue, illustrating scenes of Arabian life. This product is intended for distribution in Egypt, Turkey, Arabia, Syria, and Palestine. Some of the exterior shots were made in Cairo, and Egyptian artists were engaged for the dialogue sequences.

The music is composed by Egyptian and Italian composers. One of the films in question will have an international version in which the Arabian dialogue will be replaced by musical sequences and a few sentences in French. The synchronization is by "Fono-Roma."

#### American Films Decrease in Berlin First Run Features

Films first runs in Berlin in October totaled 22, just as in the preceding month, as against 24 in October, 1931. Of the 22 films first run 16 were German, 5 American and one was Austrian. The proportion of American films first run thus showed a slight increase, as against the previous month, comparative figures being 5 and 2.

Record runs were enjoyed by two American films. One played for 28 days in a house seating 1,100 and the other, already boasting of a straight 33-day run, continues to run in November.

#### Paris Taxes Decline

Due partly to the latest finance law of March 31, 1932, granting an entertainment tax reduction to theatres, concerts, music halls, and circuses, entertainment tax collected in Paris in September amounted to 5,890,000f, as against 10,551,000f. in September, 1931, a decline of 4,661,000f, or nearly 50 per cent.



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William C. Marshall.  
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 27—William Dodds, Otto Pierce.  
 28—Richard K. Wade, Joseph J. Walters, Jr.  
 29—Marcel Grand.  
 30—Oliver T. Marsh.  
 31—Henry N. Koehler Stanley E. Little, Roy Purdon, William N. Williams, Ellis F. Thackery.



Introducing the newest star in the Tarzan era, Miss Murlen Powers. Readers of the Album have met the miss before, but that was a long time ago and when she was more or less just a private person. Now this daughter of Mr. and Mrs. Len Powers appears as one of the cast in a Charlie Chase comedy. Frank Bjerring exposed this picture early in December, at which time the heroine was fifteen months old.

### Tannura Does Camera Work on "Reserved for Ladies"

WORD comes from London that responsibility for the photography in London Film's "Reserved for Ladies," with Leslie Howard, rested on Philip Tannura of the west coast International Photographers. This is the picture so highly praised in all departments by reviewers on both sides of the water. It was shown throughout the United States.

Robert Milton is directing "The Dance of the Witches" for London Film. He will be remembered in Hollywood for his good work with Paramount and other companies.

Alan Dawn is slated to direct "Council's Opinion" for the same company. Another American director recently in London was William K. Howard.

A letter from a visiting film man suggests the United States for the present at least need fear no major competition from the continent. There is a scarcity of up-to-date equipment. To replace this would mean several things to the producers there, among the principal of which would be the spending of money, which is none too plentiful, and then again it would be necessary to bring from the United States men who are familiar with the latest twists in camera and sound equipment.

### Bob Martin in Africa

Word comes from England that Bob (R.K.O.) Martin left that country in the middle of November for a three weeks' trip to Northern Africa.



Miss Betty Waterman, one of the most popular Americans in Asia and the South Seas and the first woman to fly from India to London, hangs a wreath on Mr. Kershner at Papeete

His headquarters were to be in Fez. The journey was preliminary to settling down on his return for what was described as a long spell of hard work.

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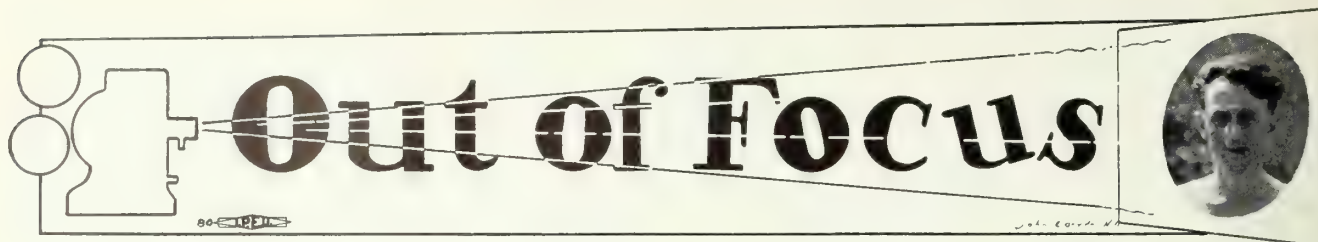
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## NEW DEVELOPER CONTAINS NO BORAX

Cracked ice, four inlays, two heaping teaspoonsfull powdered sugar, one large egg (chicken), small glass cream. Shake until ice is dissolved. Pour in glasses. Squeeze lemon rind over glass. Add a squirt of seltzer. Stop talking pictures and serve. This should remove all grain, turn negative to positive, but cannot guarantee there will be no abrasions.

## THEY HELP

Pev Marley has just returned from Hungary after being away for over a year. Says Pev: "Budapest is a great place, but I didn't like it at first, but what a town and what women!" I'll bite. What women?

## By OTTO PHOCUS

### PERRY'S PECULIAR PREDICAMENT

Paul P. Perry writes from China that he has always wanted a lot of silk shirts. Now that he can buy them cheaply, they are not being worn.

### FEZ YOU

Bob Martin post cards from Fez, Morocco (I always thought a fez was a hat or something made with gin and seltzer). He writes that the person in the middle of the picture marked with an X is none other than Bob Martin. The party indicated is blacker than the inside of a changing bag. Bob is either sunburned plenty or maybe he is just "foolin."

### RETALIATION

Because the French refused to pay their debt I did not serve champagne and bought no "Christmas Night" for Christmas.

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The camera is efficient in operation and is economical, because it does away with the possibility of wasting film by double exposure, and also because it offers the possibility of making two or more smaller pictures in the space of one. Ingenious looking devices make the camera practical and fool-proof as well as sturdy.

## WRONG AGAIN

According to the papers we were promised beer for Christmas. There was no beer at my place for Christmas. I forgot to put on another batch.

## CHAPTER ONE

A swell looking gal went up to the clerk at Schwab's haberdashery the other day and said "I would like to see some Sennett shorts." The clerk said, "Meet me to-night about 7:30 and I'll take you to the Iris movie."

## MORE TO COME

## TECHNOCRACY

This will be a swell idea if it works. Even if it don't work it will be a swell idea. As I understand it everyone will get the same pay. If so, I can see where there will be one less cameraman and one more extra man.

## DO YOU KNOW

That Virgil Miller was assistant professor of electrical engineering at Kansas State Agriculture College and has degrees of B.S. and E.E.

That Glenn Kershner is back from Tahiti.

That Gil Warrenton was raised on the stage.

That George Burnett is "Burney" Guffey.

That the basket picnic for next summer should be given some thought. See Jimmie Palmer if you have any ideas. He is a glutton for punishment.

That when Jimmie Howe went to Europe for Fox he took his grip, George Carpenter with him.

That Reginald Edgar Lyons was with Vitagraph for over thirteen years.

That Rob Wagner, in his Script, always gives the cameraman a break and he knows what he is writing about when it comes to photography.

That the recreation rooms have been removed to smaller quarters.

That this might mean there are less men out of work.

That this might mean there are not less men out of work.

That Fred Campbell's center name is Sutherland.

That Ernie Crockett was with Sennett for over eight years.

That Bob Miller saw Charlie Miller in Manilla, Philippine Islands.

That I present Thomas Jeffery Gibbons to you. Jeff, to me.

That Harry Warner Forbes was with Universal in New York for over fifteen years.

That if you have any dope on the brothers along these lines I would like to have it.



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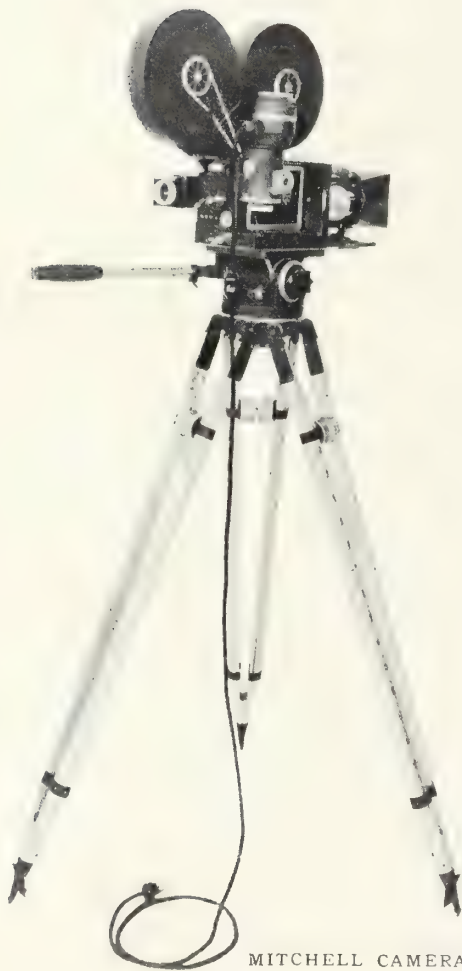


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# The INTERNATIONAL PHOTOGRAPHER

Official Bulletin of the International Photographers of the Motion Picture Industries, Local No. 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.



Affiliated with

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No. 1

*"Capital is the fruit of labor, and could not exist if labor had not first existed. Labor, therefore, deserves much the higher consideration." — Abraham Lincoln.*

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# *When Hours Are Reduced to Thirty Will Film Business Lead---or Lag?*

THE need of a shorter work week is no longer a theory. It is a condition which industry and government must meet. We have reached the point where the machine must be utilized for its greatest social purpose—the production of leisure—in order to make it an effective arm of industrial progress.

While there are no quotation marks on the foregoing paragraph you may put them there and credit what they inclose to Will Hays. They were "uttered" on the arrival of the producer executive in Hollywood, January 15. You may be sure they were not just casual remarks. They were considered, carefully considered, and after being consigned to a typewriter were examined with a microscope.

Hays of course first of all is a politician. He got his present job ten years ago because of that fact, and uninterruptedly he has held it during the intervening years because he continued to be a politician. While the immediate foregoing is not news it is mentioned merely to emphasize the fact that when Hays is quoted it is because he has had handed out by the duly qualified employe the carefully considered language certain to be bombproof against any possible attack by querulous producers.

So when the titular head of the producers' association says in a formal pronunciamiento—the kind all big cigar film executives love to issue whether they go places or just stay at home—that film leaders already are making plans for a greater era of entertainment expected with the shorter work week in American industry you may know that he is reflecting and uttering what previously has been said by these same big cigar film executives across the table of the association's board of directors.

## **Many Lean Days**

That the leaders of the industry should so feel about the present situation is mightily interesting. It will be even more so to those men and women whose lives for any or all of twenty-five or more years have been a part of the picture business.

Many of these men and women during the last few years have fallen on lean days. Some there have been who have not. Some even have been called upon month in and month out to work many hours overtime. Protests made to minor bowwows of brief but great authority against the unfairness and sometimes brutality of the unnecessary proceeding have met with scant attention.

Of course if the Producers' Association members are banking on the industries of the country going on a thirty-hour and five-day week basis then already they are laying plans guaranteeing that the industry of which for the moment they are the

mouthpieces will be right in line with all other industries in this forward movement.

Surely the leaders of the industry and the capitalists who employ them would not for a moment, by aiming to continue on a daily schedule ranging from eight hours up to twenty or more on occasion, expect to capitalize the statesmanlike action of those employers who institute or grant thirty hours and five days.

If the nation or a goodly part of it goes on the thirty and five standard it is imperative that the film industry, always throughout the nation and the world in the spotlight of public attention, should be one of the leaders of the movement.

## **Come from Within**

Any action in this direction should not be the result of yielding to the pressure of a major force of any description. It should be on the part of the industry's controllers an act of spontaneity, coming from within their own circle and unprodded from without it.

As to the individual leadership in such a movement—that is another matter. A cursory examination of the available material is not encouraging. It need indeed be a bold man and more who in the face of prevailing financial conditions will sit around the table with his associates and advocate what superficially appears to be an increase in labor costs of possibly one-third.

To the banking fraternity such a thought would be poison. That narrows the field to film men. It is possible among these there may be one with sufficient sand, one whose shoulders are broad enough, when convinced of the wisdom of such a move, to step out in front and in the face of the world say to his company and his fellows in the industry, "Let's go!"

There is one man in the group whose background stamps him as very much an industrial statesman and very little an industrial politician.

That is Kent.

Certainly the industry cannot continue its forty, fifty, sixty plus hour schedule—for the workers—and command the good-will or the commerce of those dependent on industries adhering to thirty hours.

The picture business must have the good-will of the mass, especially at home. Without that it is without a chance of progressing and expanding with its natural clientele.

The claim will be made the industry cannot survive the increased labor cost. The most vociferous will be the drones and the profiteers. The workers high as well as low know there are many spots in the studio budget where careful and impartial

incision of a pruning blade will practically offset any added labor cost.

No one denies and every one admits something must be done to change for the better the employment situation. If the men at the head of government—national, state and municipal—and business institutions are wise in their day and generation they will take immediate tangible physical and not vocal steps toward instituting a change.

Progress always is so much easier and much more smooth when the initial reformatory measures are instituted from the top than from the bottom. History is filled with examples—examples as hard and unyielding as the stone walls and steel bars of the old Bastille—of what may happen when they are instituted from the bottom.

Point not your conservative finger in our direction because of any seeming grim or grisly implication to be read in or between these lines. What is being read is merely a deduction from or reduction of the significant report submitted by the lily white and not ruby red—by the highly placed and not by the lowly poor we have always with us—by the nationally important members of Hoover's million-and-a-half-dollar Research Committee on Social Trends.

## **Dark Picture**

For three years the commission under the chairmanship of Dr. Wesley C. Mitchell of Columbia has studied and worked. Hidden away in 1568 pages are to be found many strong statements. Here is one of them:

"Unless there can be a more impressive integration of social skills and fusing of social purposes than is revealed by recent trends there can be no assurance that these alternatives, with their accompaniments of violent revolution, dark periods of serious repression of libertarian and democratic forms, the proscription and loss of many useful elements in the present productive system, can be averted."

All of which means in plain language something must be done about things or trouble will follow.

President William Green of the American Federation of Labor told the Senate judiciary committee last month that organized labor is so firmly convinced the six-hour and five-day schedule is necessary that the reform will be established by strikes if other methods of securing it fail.

Incidentally and in spite of statements we are over the depression hill figures released by the American Federation of Labor indicate the number of jobless in November was 130,000 over the previous peak, the total at that time being 11,590,000. Partial reports for December show still greater increases. G. B.



# Army Photographs Stir Memories

Parichy Relives Days in Ground School at Rochester and Later Aerial Training with Camera at Belleville Camp

By ESSELLE PARICHY

Staff Correspondent International Photographer

**R**ECENTLY I came across some photographs of the ol' army days, which vivified memories of fourteen years ago, when I went off the gold standard and grabbed for myself a handful of thirteens.

If my memory does not fail me after all these years, my enlistment in the Photograph Division of the United States Signal Corps was wrapped up with a lot of ones and threes. At the Photo school I drew Cot 13, in Dormitory No. 13, and my service serial ended with 13 . . . what a break to start a fighting career?

Yet it did not prove unlucky for me. On the contrary, the spectral hand of 13 rather seemed to snatch me out of danger than to put the double cross on me.

I can remember at least a half dozen instances in my flying experience when death passed closely by me. One morning in particular, as I was preparing to fly for the usual aerial exposures, the hangar sergeant came over to me to ask if the skipper could take him up first to test the newly installed motor that he had been working on. A few moments later there was a crash and someone else bore the fate that would have been mine.

## The Inevitable

Another time I was to get the first ship that came back to the field, but for some reason my photographic trip was canceled for me and given to another. An hour later the ship in which I was to have flown burned in mid-air. I guess it is like the Manchu wisdom—"He who is marked for an accidental death will meet his fate even though he dwell in sheltered seclusion."

A lot of you boys may remember the photo school at Rochester, N. Y., back in the extravaganza days of February, 1918, when Mr. Eastman turned over his new paper building at the Kodak plant for an aerial photo finishing school.

To me those old army days will long be remembered. How well I recall those first day instructions at this school, and he who followed the rules made the grade. Our first instruction there was to forget all we ever knew about photography and learn all over again the army way.

## Fast Enlargement

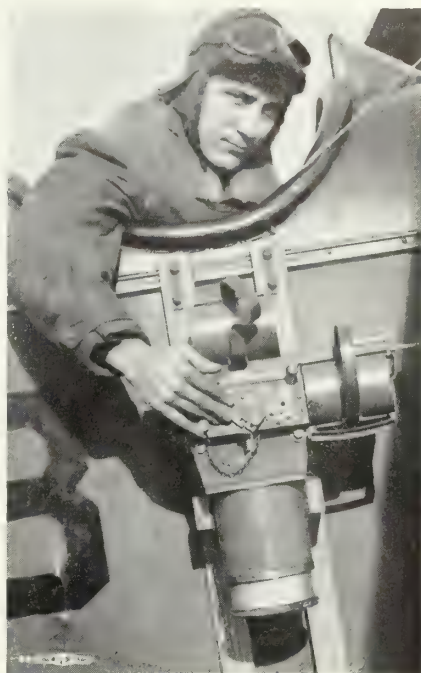
After three months of simple fundamentals of photography we were graduated from the first school and moved on to the various flying fields about the country. I drew Scott Field at Belleville, Ill., for ground and aerial training. Our outfit was Photo Section No. 30, and we hung up some records that still hold good.

Our speed test of making an 8 by 10 enlargement from a 4 by 5 panchromatic plate in 5 minutes and 42½ seconds was one accomplishment we all were proud of.

Aerial cameras were new to all of us. The first aviation still camera was the Type C changer made for the Royal Flying Corps and adopted by the United States Army. It was made of wood and had its faults, but later the all-metal Type L camera was developed by Eastman Kodak.

The general principle of this camera was somewhat similar to that incorporated in the Type C camera.

The Type L camera magazines carried twenty-four 4 by 5 panchromatic plates in metal septums that fitted directly above the exposure aperture,



Sergeant Parichy with Eastman Type-L camera (all metal aerial camera).

and the plates fell into position as fast as exposures were made.

To make an exposure was simply to depress smartly on a plunger on the camera's side in a downward movement. The exposed plates were removed from the aperture by pulling a handlever backward that moved the exposed plate horizontally into a receiving magazine.

In the Type L camera the changing of the exposed plate and the setting of the focal plane shutter was one operation, either by hand or automatically by action of a wind propeller, a special attachment that we did not often use.

The camera seldom jammed and when making continuous shots of our line of flight, often as fast as one second intervals, for a wide overlap in stereoscopic work, these cameras clicked perfectly and came through for us.

As it is well known, to the observer in an airplane, flying at great height, objects on the ground appear very flat. In warfare, in order to examine closely the battery and trench positions and to detect all manner of enemy camouflage, it was necessary to increase the relief more than the naked eye could see.

To obtain this increased or exaggerated relief we were taught to shoot two exposures in rapid succession with aerial cameras, which gave us stereoscopic effect in the prints after proper cutting and mounting.

Prints for these stereos had to be the same color in developing and preferably lighter than dark in color.



Interior of photo hut workroom.



The standard size of a stereo mount was 3½ by 7 inches.

#### Shooting Stereos

The intervals of these aerial exposures varied according to the flying height, from 1½ seconds at 1000 feet altitude up to 14 approximate seconds between exposures at 10,000 feet with the ship flying at 60 miles an hour ground speed.

Cutting the prints to fit the stereo mount necessitated superimposing the prints in the proper position and cutting them through the same portion of each print which was practically the same picture.

It was also necessary in mounting the prints to space between the images of the same object a separation of approximately 2¾ inches or the distance between the eyes.

Making mosaic maps of a given terrain was made by taking a series of aerial photographs overlapping one another in such a manner that no part of the area was omitted. To make a map of say six feet square we brought into play more than two hundred prints for its completion.

#### Not So Tough

Life was not so tough for we photo boys at Scott Field. We had chicken and ice cream bi-weekly at the mess hall, free stationery, and movies every night at the Y Hut. We emoted to the "at that time" darling of the screen, Marguerite Clarke, and what a thriller Olive Tell was in those old pre-hectic days.

Our programs at the Y ran something like this:

Monday—Movies featuring Herbert Rawlinson in "Brace Up."

Tuesday—Five St. Louis girls, readers and elocutionists.

Wednesday—Dr. Loyal G. Minier

in the lecture "How Life Begins," illustrated with movie film (for men only).

Thursday—Movie featuring Marguerite Clark in "Rich Man, Poor Man."

Friday—Government film "Fit to Fight." (For men only.)

Saturday—Industrial and travel movies.

Sunday—Morning service at 10:30, the Rev. Mr. Billman, speaker. Evening song service at 8 o'clock.

Some very special general orders I followed meticulously aside from the photo work were:

To salute all chicken, pork chops, ham and eggs, but not the beans.

To watch my mess plate in a military manner.

To take charge of all the spuds and gravy that come in my sight and smell.

To report to the mess sergeant all bread sliced too thin.

To repeat all calls for second helpings; to eat until full and never pass on to my buddies any victuals in range of my lunchhooks.

To speak to no one that asks for caviar.

To shoot the onions.

To quit the table only when there is nothing left to eat.

To take hypo instead of bicarbonate of soda to fix the old stomach.

WHAT A LIFE!

## Kershner and Andrews Entertain at Union Meeting and in Church

AT the January stated session of the west coast International Photographers following the business meeting the members were highly entertained by Glenn Kershner, I. P., recently returned from Tahiti and nearby islands, and Loring Andrews, with whom the former had become acquainted in the South Seas.

Both men brought along their guitars. Loring also had with him his responsive accordion and his sidekick evened things up with his bass viol. One of the hits of the evening—just one—was the duet in a particularly lively Spanish song by Andrews and Member Anthony (Jim) Fernandez, the former with his guitar and Kershner with the big wood.

Four reels of pictures taken by Kershner in the South Seas were run, many of the subjects being accom-

panied by Andrews on the guitar which had carried the adventurer around the world.

Not long after the two men on a Sunday evening in the Culver City Presbyterian Church were requested to take over the lay part of the service. Kershner spoke from the pulpit on "Missionaries I Have Met on the Outer Edges of the World." Following his address, which with other incidents told of his experiences among American Indians in the year and a half he lived among them, he showed pictures of the Arctic in color and of his recent trip to the South Seas.

For the occasion the Methodist church was closed and its members moved over to the Presbyterian edifice. Some of the other denominations did not officially close their doors, although the attendance was somewhat attenuated. The rush for chairs in the neighborhood of the church was unprecedented, but the Methodist congregation helped out materially by drawing on its own reserve.

#### Home Paper Records Honors Raining on Correspondent

THE following from the January 15 issue of The Society Pictorial, finely edited and printed Miami publication, may bring to mind a photograph of Mr. Parichy's Egyptian namesake, with the very polite letter from her father contained in a recent issue of International Photographer:

"Esselle Parichy, maker of those exciting Vagabond Travelogues and staff correspondent for the International Photographer, has the dubious honor of a namesake in Egypt. When there some time ago he and his guide became great friends and, on parting, the native promised to write.

"After restful months in Miami came a letter written with much good English, that had been forwarded all over these United States, inclosing a postcard portrait of a little six months Esselle. And is he [sic] cute! And dark! And Egyptian!"



Some of the photo boys at Scott Field. Left to right, Block, Werner, Rosenthal, Parichy, O'Hearn, Barnes. Sitting, Pfetzer, Assadourian, Laube, Doty and Kerns.



# LOOKING ABOUT on LOCATION and SET-by TY

**P**ARAMOUNT has the distinction of having the largest camera boom in the industry. It resembles, roughly, a large steam shovel with a long neck. Out at the end of a twenty-four-foot beam is a camera anchor, accompanied by seats for the cameraman and director. This headlike ensemble on the "boom" end travels about here and there after the manner of a swan's head. It was first used about a year ago.

\* \* \*

Cecile De Mille in filming "The Sign of the Cross" was traveling about on this boom with the cameraman looking for camera angles when in raising the beam to a nethermost portion of a large set he was confronted with a person called for the day, or in other words presumably working, "kinda taking a nap." The sleeping party awoke to report she had received an early call from the studio so her voice could be used as atmosphere in the large set. After waiting six hours she was resting.

\* \* \*

Dr. Boris V. Morkovin, head of the motion picture department of the University of Southern California, is

about the studios with his classes. This is the first university to raise the study of the dramatization technique of various cameramen and directors in the motion picture to an academic rating.

In these classes are taught the comparative values of lighting, camera angles, sound and other devices used in creating and enhancing emotional stimuli. The various methods of cameramen and directors are intelligently compared.

\* \* \*

Along these lines of the motion picture in the university is the initial move by President Rufus B. Von KleinSmid of this university to organize the cinematic forces in this country further to use the motion picture in educational lines. This conceptual move is the basis of an organization to carry on the work already started abroad years ago.

Its organizing is being furthered by the collaboration and interest of several American universities and of Mme. Laura Dreyfus-Barney, who is a member of the Grand Council of Education of the Chamber of Deputies in France, and also prominent in

the activities of the League of Nations Institute.

\* \* \*

Over at the United Artists Studio we find a reminder of the literary masterpiece of Joyce Kilmer, "Only God Can Make a Tree." Here Nick Kaltenstadler has made a massive tree for the Mary Pickford picture "Secrets."

This tree instead of nestling against earth's sweet breast rests on rollers so as to be moved about. It has plaster of paris limbs, covered with rubber and collodion for bark, and is part of an impressive whole in one of the sets in this picture soon to be completed.

\* \* \*

"Morey" Laranaga, the man who has enhanced the beauty of so many productions with his artistic glass paintings, deserves credit for the breath-taking glass painted by him for Willis O'Brien in a picture being made of prehistoric animals at RKO.

This is a shot of an air view of New York and must be seen to be appreciated. The realism of this particular picture will justify the use of glass effects, since the shot points out the reality of the locale with greater effect than the actual could be shot.

A cry of "Fake" is only set up by an audience when glass or other effect shots are poorly done. Inherently the public feels that artistic and effective results justify the use of such devices. Such beauty sometimes cannot be obtained otherwise, and at its best the industry is a combination of all arts, all of which must be employed at times most effectively to tell a story.



In building props for the Mary Pickford picture "Secrets" Nick Kaltenstadler created an effect that brings to mind those famous lines of Joyce Kilmer that "Only God Can Make a Tree." Right, at Paramount Studio the twenty-four-foot camera boom elevates director of "Sign of the Cross" for a second-story close-up.



# Delving Into Screen's Parenthood

Chronological Tale of Inventors Who Sought to Create Pictures That Moved, Beginning with Dumont and Ending with Edison

By EARL THEISEN

Honorary Curator Motion Pictures, Los Angeles Museum

WHO, definitely, did invent the motion picture? If this question is asked an American his somewhat non-committal reply will be Thomas A. Edison, while an Englishman will firmly answer William Friese-Greene or Louis A. A. Le Prince.

A Frenchman proudly will point out the work of Louis and August Lumiere.

Comparing these claims we find the American more concerned with results and the future and less concerned with the source, the past, than those across the water, who love theorizing and retrospection. To the English and the French theory has an importance comparative to achievement. And upon this basis they will give credit.

Such briefly are the conditions existing around the various claims to the so-called fatherhood of the movie. No one doubts that Edison perfected the apparatus that made the motion picture practical and a commercial

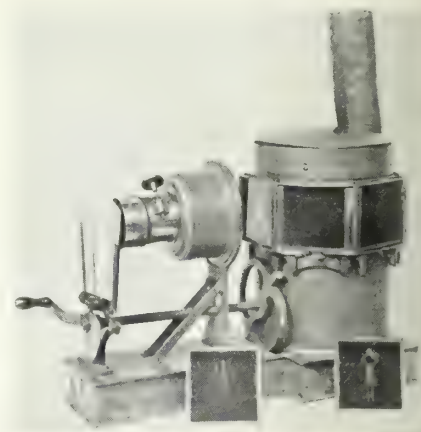
possibility, while other pioneers whose claims have been advanced only deserve credit for theorizing.

This theorizing is but a prelude to a lot of hard work which was only surmounted by Edison and his helper on this problem, William K. L. Dickson, whose successes are to be judged from the fact that practically all procedure along these lines follow in the footsteps of these two men.

## Sixteen Lenses in Camera

Pictures were a long time learning to move. During the past several centuries many, many men spent their lives struggling with the problem. Hence no one man deserves a signal award for theorizing, even though the structure of his theories had a semblance of practicality, unless he brought his ideas to fruitfulness.

It is found upon investigating the claims of Louis A. A. LePrince the only definite documents existing to substantiate his claims are the pat-



*Bio-Phantoscope, a lantern device which showed pictures taken in various stages of a complete action by photography in 1868. It had an intermittent arrangement for moving the successive slides forward and a shutter for stopping the light during the change. Friese-Greene formed a partnership with J. A. R. Rudge in 1885.*

ent specifications of his British and American patents of 1888. The United States patent office eliminated his claims to one and two lenses due to the interference of Dumont's British patent No. 1457 of 1861.

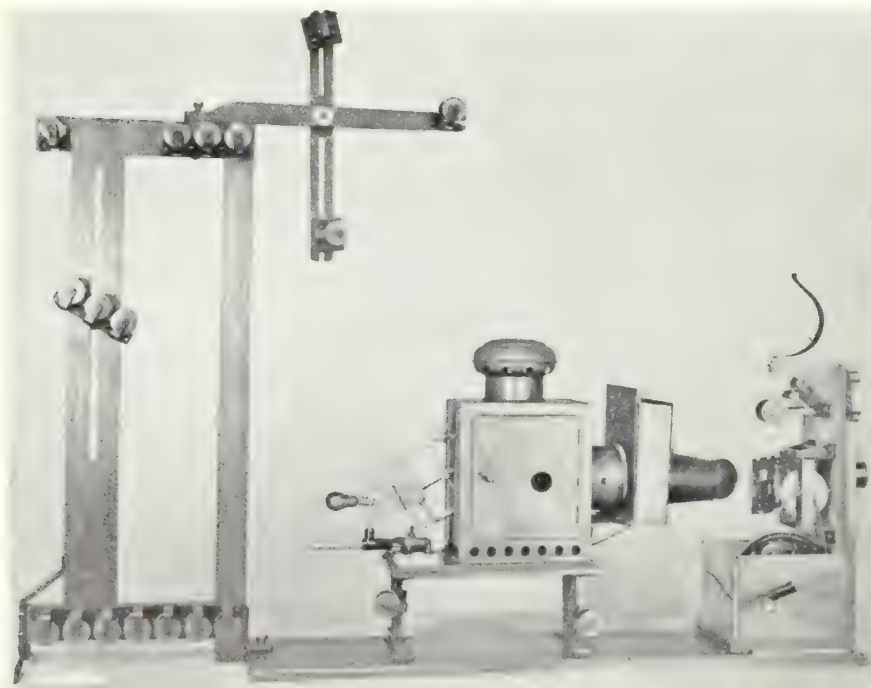
The drawing accompanying his patent is for a camera with sixteen lenses placed in two rows of eight each. Each of the lenses in the first series was to photograph consecutively pictures while the film facing the other eight was being moved forward in readiness for another exposure.

It is of interest to note that Joseph Mason later made a model of this camera from the patent specifications for the Biograph Company to be used in the patent dispute between Edison and the Biograph. The camera was made with the hope of using it as priority evidence to break the Edison motion picture patents. However, tricks were resorted to before successful pictures could be made.

It is known that pictures taken in a multiple lens camera from two points of view give an alternating picture that would jump back and forth on the screen. Of course stereo effects are obtained in this manner, although this was neither Le Prince's nor Biograph's intention in making the camera.

## Cutting Out the Jiggle

Joseph Mason in making pictures with it photographed them in front of a black curtain to avoid a background of relative positions. After developing the negative he cut apart each frame for fifty feet of film and tediously lodged each frame by hand for the entire footage in a Biograph step printer to print a positive for



*Edison Projecting Kinetoscope first made about July, 1896. This type of projector sold outright for \$75 and could project a picture for 50 feet. Note the spool-bank which held 15 to 40 feet of film running continuously. It was made under the Edison and Armat projection patents and followed the introduction of the sister projector, the Edison Vitascope, which was made exclusively for renting on a states right basis through Raff & Gammon.*



the required courtroom demonstration of the LePrince camera.

The Edison attorneys upon seeing the picture cross-examined Mason with "Don't you know that if you take a picture with a camera having two or more lenses you get a stereoscopic effect and your pictures will jiggle on the screen?"

"Well, this picture doesn't jiggle," Mason replied, failing to mention for obvious reasons the manipulation involved to make them steady.

LePrince was granted a British patent No. 423 on November 16, 1888, on a one and multiple lens camera ("receiver") and projector ("deliverer"). After this he made a sixteen-lens camera, and later, the date of which is not known, he made a camera having one lens. The date of this last mentioned camera cannot be established by any contemporaneous documents.

#### Enter Bio-Phantoscope

The earliest evidence at hand is a statement signed by Ferdinand Mobbison, secretary of the National Opera, of an exhibition at the Paris Opera House on March 30, 1890.

The work of LePrince is significant, and perhaps had he not disappeared unaccountably on September 26, 1890, the course of screen history might have been somewhat different with more credit to his work.

William Friese-Greene first started working on the motion picture problem some time in 1883, beginning with some experiments in recording motion on glass plates, which were to be shown in a lantern device developed by J. A. R. Rudge.

This lantern or Bio-Phantoscope as it was known had an arrangement for placing individually photographed pictures on glass plates around the lamp house; and by turning a crank the pictures would be consecutively projected to a screen after the manner of a dissolving stereopticon.

It had both a shutter for interrupting the light while the picture was being changed and a Geneva intermittent for its movement. The Bio-Phantoscope was the most perfected of the stereopticons, and used as it was to show about eight slides, each a part of some action, received considerable attention, although it was not the first device constructed using photography to show motion.

Coleman Sellers has the distinction of being the first to attempt to depict motion by photography with his experiments of 1861. After the death of Rudge, Friese-Greene continued his experiments, and in 1885 demonstrated some pictures taken spirally upon a glass plate.

#### Persistence of Vision

These, however, were not a success, so he endeavored to photograph on paper bands made transparent with castor oil, continuing with his experiments as he could spare time from his photographic business.

On June 21, 1889, together with Mortimer Evans, he applied for a patent which was accompanied with conceptional drawings made by Evans. In the meantime he made several pictures using either the paper

bands or some celluloid he made himself. The success of these pictures on the screen, however, has not been accredited.

The Scientific American Supplement, No. 746, of April 19, 1890, P. 11921, describes the working of his mechanism and closes with: "Some years ago he exhibited a little optical lantern which cast four pictures in succession upon the screen, and, before one was quite removed, the next was superimposed.

"By an improvement upon that lantern, now in the course of manufacture, Mr. Greene hopes to be able to reproduce upon the screen, by means of photographs taken with his machine camera, street scenes full of life and motion; also to represent a man making a speech, with all the changes in his countenance, and, at the same time to give speech itself in the actual tones of the man's voice by means of a loud speaking phonograph."

From this it would follow his device at this time had not been perfected to the point of a public demonstration to a critical audience.

#### Edison's Honors

Friese-Greene died in England at a dinner in his honor on May 5, 1921. He had just finished a speech when he sat down only to drop forward on the banquet table, dying of heart failure. Even though he worked hard with the problem of making pictures move his work had little importance in actual screen history. Every one regrets to see a man die a failure after spending a lifetime in pursuit of achievement.

To Edison must be accorded the honor of making pictures in motion,

giving them to all in a practical way. He became interested in the subject in 1887, assigning W. K. L. Dickson to the problem. Their first experiments closely followed the principle of the early cylinder phonograph, consisting of coating cylindrical records with a photographic emulsion.

This line was discontinued and others tried, including pictures taken in long strips, on paper bands and countless others. The trend of the experiments was altered after Dickson had attended a lecture late in 1888 at the New York Camera Club, at which an Eastman demonstrator showed some samples of the earlier Eastman celluloid coated with photographic emulsion.

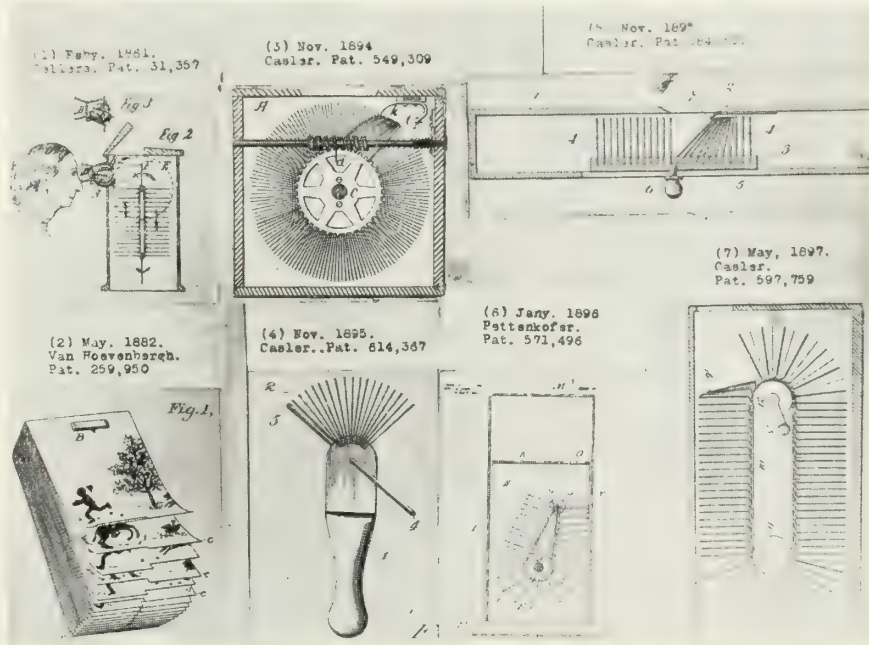
#### Lumieres Secure Patent

Dickson procured a sample 2 to 4 inches square to show to Edison. Upon seeing the sample Edison in his characteristic manner told Dickson, "That's it, now work like hell."

Which is exactly what Dickson did. He completed a rough copy of the Kinetoscope ready for demonstration upon Edison's return from the Paris Fair of 1889. The first demonstration was held on a Sunday, November 6, 1889. The application for patent on this device was delayed until August 24, 1891, and was granted August 31, 1897, as No. 589,168.

Around this patent number revolves a world of amusement and romance, giving as it did the motion picture to the world. With the passing of the next few years Edison definitely took the motion picture to the doorsteps of the dramatic artists for their teachings of dramatic art.

Upon the introduction of the Edison Kinetoscope peepshow, April 14,



A series of patent drawings on some of the earlier devices for showing motion. No. 1 is the Coleman Sellers device of 1861, which was the first attempt to show motion using photography. No. 2 is the first patent on a device to show motion pictures in book form, which was the underlying principle of the Biograph Mutoscope peepshow. The Casler patents shown were part of the many patents granted as a protection for Biograph.



1894, all over the world inventors endeavored to make devices showing pictures on a screen. The work of the Lumieres enters here and by Feb. 13, 1895, they had a French patent issued to them on a very compact device that was a camera, printer, and projector combined.

It was very little larger than a cigar box, and due to its compactness was much prized by contemporary experimenters. The Lumieres started

their commercial showing at the Grand Cafe in Paris on December 28, 1895.

Others to project pictures this year were Woodville Latham, in New York, who had a press demonstration of his Pantopticon on April 26, and Thomas Armat and C. F. Jenkins in Washington, a shop showing in August, 1895, of a beater movement projector which was not successful. At this time another projector with a

Geneva movement was started and finished independently by Armat, the rights and patents of which later were acquired by Edison; and Robert Paul in England finished a projector in the fall of 1895.

These are the men who deserve the credit for crystallizing the age-old dream of pictures in motion, giving to us the international institution of the motion picture, which is just coming to realize its power.

## *Largest Still Camera of Its Type Again to be Operated by Harburger*

**A**FTER being out of circulation for about four years the largest still camera of its type again is in action. It has been restored to the arms of Neal Harburger, I. P., its operator since it was released by the manufacturer, the Adams Minex Company of London.

A number of years ago the late Fred Thomson sought a camera especially adapted to the making of action stills—pictures that might be exposed while he was engaged in producing westerns without experiencing the delay caused by posing the everyday still. Also he wanted it to be 8 by 10 in size so as to avoid the time and expense involved in enlarging up to that area.

Stopping work to make stills has been the bane of directors ever since the beginning of picture making. In the old days in many instances they insisted on the fewest possible number, depreciating their value and declaring they were not worth a part of their actual cost in lost company time alone. It was not until the picture was over, the company disbanded and

the stills were back in production offices in New York that the squawks really began.

The film salesmen had nothing much to stow away in their brief cases to show exchangemen and exhibitors, and the publicity department had insufficient material out of which to create pressbooks and 8 by 10s and 11 by 14s for lobby displays, let alone stuff for inquiring magazines seeking exclusive pictures.

Thomson sought to secure a camera on the graflex type in the United States, but manufacturers shied at the idea. Too much experimental work was involved. So he tried the English company named and arrangements quickly were completed.

Quite a bit of time was devoted to getting the hang of the new instrument when it was turned over to Harburger—in fact, it was three months before the bugs were ironed out. At first it looked as though a huskier breed of stillmen might have to be developed, inasmuch as the instrument was made of teakwood and brass and weighed 34 pounds. With the bellows

extended the camera measured 18 inches high and 30 inches long.

One of the initial handicaps was the designing of something to take the place of the swingback of the regular still camera. Swinging lens mounts were built with a regular ball and socket joint, the lens itself being mounted in the ball or movable part of the joint, which most successfully took the place of the swingback. After the shutter finally was adjusted to the speed of the film as it was at that time it was found satisfactory pictures of horses in action and thrill shots of all kinds could be made without difficulty.

Stills on seven pictures were made with the camera by Harburger before the death of Fred Thomson resulted in all of the unusually up-to-date production equipment he had accumulated being placed in storage. Recently the camera was turned over to Harburger with the understanding he alone should use it.

The cameraman declares that with the improvements that have been made in film during the last four years the scope of the camera will be greatly widened.

The Pathe-Natan concern, of France, has reduced its capital from 160 million to 136 million francs, or by 15 per cent.



Left, Neal Harburger again to operate the 8 by 10 still camera known as the largest of type and with which he exposed the still photographs on seven Paramount westerns in which the late Fred Thomson was featured. The instrument is owned by the Thomson estate. At the right, just beyond the jumping horse he is rehearsing is shown the man who was a chaplain in the war and an actor following it.





Left, the Pali at Honolulu, where old Boreas plays his tricks. Right, the lights on Shanghai's Nanking Road.

## Cruising Photographer Tells of a Visit to Manila's Bilibid Prison

By NELSON C. McEDWARD

*With his own illustrations*

THE day before we landed in Manila it rained two inches in seven hours. That would have been a sight for any Californian, or one anyway of the southern end. We took ours on the water, where it did not mean so much except that it interfered with the exposing of film. The countryside was overrun with vegetation, of a dark bottle green.

I had long wanted to photograph the inside of Bilibid Prison, but had been so thoroughly discouraged regarding its possibility I practically had given up the idea. It just happened on my last afternoon at sea there had been an introduction to an attache of the customs secret service who had given me a letter of introduction to the chief of the prison.

The day I presented my letter I was just too late to catch the drill of 4000 prisoners in the yard. The guard at the gate so informed me. When the guard got word to send me through he suggested I leave my camera with him. I thought it was all up.

With the chief, though, it was different. Assigning me two prisoners to carry my equipment, he said I might photograph the entire prison. I pretty near did just that. What a prison! Prisoners may be pardoned for feeling that following entrance there the key is thrown away.

### Five Gates of Steel

I did see one American. He was much dejected. I found the staff very courteous. They dragged out a lot of furniture the prisoners had made and I took shots at it. The furniture possesses real quality. I bought a hat made out of the tops of coconuts, and at the gate I was tackled to join the Anti-Tuberculosis Society at a cost of 2 pesos. All seemed pleased when that was put over.

After going through five gates of steel it seemed good to get out of Bilibid Prison, so I left immediately for shipside. Legaspis Landing was made just before I passed out with the heat, or so at least it appeared. Anyway before going aboard two bottles of beer seemed to go far to restore or recreate a proper outlook on life.

Manila is a great place to buy linens, but the rate of exchange does not give much help, and a dollar doesn't last very long in purchasing them.

On the way back to Hongkong I made a few shots of Manila flyers as they sailed over the ship. In the evening we witnessed a most glorious sunset. It was one to remember.

During the night we just missed a typhoon, speaking comparatively, by which meaning by about fifty miles. Five thousand would have been okeh with me. It seems the officers got a tip on its path just in time to steer out of or away from it.

Hongkong brought us more rain, but in Shanghai we actually had sunshine again. In the Chinese quarter I made some shots of a native funeral procession, and what a job it was getting them! Chasing through narrow streets in a taxi is no cinch, as the procession travels pretty fast. Nevertheless, I managed to get a good shot after hiding behind a pile of teakwood and sneaking up on them. Of course the cumshaw was forthcoming, a dollar of their own money.

We ran out to Chapei to the ruins, and what a place that community has been knocked into. They were still pulling down old walls. The area is all fenced in, but I managed to crawl under the bamboo and up a wall and got my shots.

At that time the district was still policed by Japanese and Chinese soldiers, so of course a little cumshaw

had to be disbursed. The four-hour trip there and to the Chinese quarters in a taxi was 75 cents gold, which is a lot of money in Shanghai.

### Long Time Afloat

The Neon lights in Shanghai make an interesting spectacle at night and an interesting photograph as well, as I learned following a shot of Nanking Road. Knowing that on Eastman superpan the reds are there I stood in the rain for eleven minutes making the exposure.

Talking with an old Chinese on a Whampoo River junk he informed me that for twenty-two years he had not set foot on the Bund in Shanghai. Children live so continuously on these craft that when they come ashore they get badly landsick and have to scuttle back to the boat.

Selling pictures at night on shipboard presents problems in mathematics. Chinese in payment for these proffer either Shanghai or Hongkong money. This has to be figured out with each transaction, as every day the exchange rate changes.

Entering Kobe involves quite a bit of detail, especially in the way of physical examination.

There is more delay in getting off the boat, but this is especially true if a camera is taken ashore. There is always the hazard film may be exposed in a fortified area, even when it is the aim of the photographer to avoid doing it. It is not so difficult getting into jail when toting a camera, but it is plenty tough when the detained one attempts to get out.

From Kobe we trailed back through the Inland Sea to Yokohama and into more rain, all day long. Thus the erstwhile devotee to indoor sports comprising Haig and Haig and Pilsener, etcetera, is compelled to find work for idle elbows to do.

So back to shipside and off on the long hop to Honolulu. We sped from 14 up to 22 knots, arriving eighteen hours ahead of time to load on 67,000 cases of pineapples.

Friends in Honolulu drove me up to the Pali. It is a beautiful sight, but what a wind there was the day I was there. In making a shot I was nearly blown off the cliff. I got the shot.





### In Focus—In Spots!

**W**ELL, boys, meet the new president of 666, Conrad Luperti!... And does Lupe know anything about cameramen and their problems or does he know anything about them?... Our new prexy is the real old maestro of the galloping tintypes... started to twist a crank way back in 1903... That's the year I wuz born... which makes Lupe sort of a great granddaddy to young squirts like some of us kids which is busting around, pushing buttons and braggen about the good old days.

Why Lupe wuz even shootin em in focus before I could crawl on the floor, and I know all about me and a couple others what is still trying to hit every scene sharp... Lupe has done everything with his old box from thawing it out in the Arctic Circle to watching the film melt in the scorching heat of the desert... Lupe has covered every inch of Europe, including Russia; Darkest Africa and the North American continent... and then finally settling down here in Chicago at the Essanay Studios, where he shot most of the actors which is now big names out in Hollywood.

Best wishes on the new high office of president of Local 666, Lupe... the boys is with you... Luperti's cabinet consists of Ralph Philips, first vice president; Verne Blakely, second vice president; Walter Hotz, financial secretary; Martin Barnett, recording secretary; Roger Fenimore, financial secretary; Jack Barnett, sergeant at arms; Fred Felbinger, Bert Kleerup and Floyd Traynham, trustees.

SIX SIXTY-SIX

### Christmas Eve in Moweaqua

Christmas was coming to Moweaqua, Ill... Moweaqua was a small thriving mining town with most of the men folks working down in the mine... but Christmas was coming, so the men folks got together and figured maybe the kids ought to have a Santa Claus this year... a real Santa Claus with a red uniform and swell white whiskers and all. So all the older folks got together and picked "Big Jim" as the official St. Nick... "Big Jim" accepted and everybody got set for a big Christmas celebration, a real old fashioned Xmas.

The morning of Christmas Eve Jim laid out his St. Nick suit and then started out to do his days work down below in the mine before assuming

### By the Sassiety Reporter As Told to

**FRED A. FELBINGER**

his happy role... On the way to the shaft Jim and his buddies saw many holly wreaths adorning the windows of the humble mining people; Christmas trees were being set up.

Jim plodded ahead proudly as he thought of the happy role he was to assume in the evening... So Jim and his buddies went down into the shaft... That afternoon many newsreelers rolled into Moweaqua... Jack Barnett, Martin Barnett, Rufus Pasquale, Charlie Geis and Ralph Saunders.

The coming of these newsreelers was an ill omen to the folks of Moweaqua... Newsreelers aren't in the

a humble little cottage, here and there, but the town proper was deserted.

### Big Jim First

So these newsreelers kept their all night vigil at the mine... Christmas Eve... and they thought of their loved ones at home... and their hearts went out to these poor simple people of Moweaqua... Then came Christmas Morning... and as the bells of the little Catholic Church in Moweaqua tolled out an early Xmas greeting those newsreelers hit the cranks on their cameras.

A sudden burst of activity at the mine shaft... Santa Claus was finally coming to Moweaqua... "Big Jim" was coming back to his own folks... the folks he was going to cheer with the false whiskers and the red uniform... but somehow Jim didn't cheer them as he had planned.

Why, they were all crying when Jim came back from work... The newsreelers grinded away busily... Here was Big Jim... cold on a stretcher... Jim was the first of fifty-two buddies to be brought up in one of the worst mine disasters of the Illinois coal fields... It was Christmas in the little village of Moweaqua.

SIX SIXTY-SIX

### Real Noble Experiment

You hear about Technocracy and all sorts of new doofangled ideas to save the nation... or sumpin... Well, 'n my roaming around I runs across another idear for solving a mystery the government has spent millions on and got nowheres... I mean prohibition.

Well, sir, mebbe prohibition is a dead issue almost, but this idear to bring about prohibition sounds so good to me that I figures you ought to hear about it... The guy what has the idear is a old exbartender... which means the guy mebbe ought to know sumpin about the curse of drink and mebbe how to cure it.

This bird tole me the only real way to cure the population from drinking and bring about real prohibition is to place a big barrel of whiskey on every corner with a big tin dipper on it so's every drinking soul of us kin drink all the free whiskey we kin carry.

He says in time we would get so sick of whiskey that we would just give it up... and what's more, remember, this guy wasn't wisecracking about it neither... he meant it... Boy, oh Boy! what a noble experiment that would make!



Conrad Luperti, President  
666 of Chicago

habit of spending Christmas Eve away from their folks back home... But duty called these newsreelers and duty brought these newsreelers to Moweaqua.

As they dashed to the mine they saw the empty homes, many with the doors ajar... the holly wreaths in the windows, some Xmas trees set up in





He slides not, neither does he spin. Jack Barnett, one of the newsreel entries at the annual Cary (Ill.) ski tourney. Barnett, however, did not compete on skis. He did all his sliding with the Akeley while trying to climb to the top of the slide. The gallery in the background is marveling at the wonderful exhibition of brute strength the newsreeler is giving, juggling a heavy Akeley with one hand simultaneously with balancing a pair of skis in the other; but anything for his admiring public, says the reticent Jack. Photo by Paul Cannon.

### Paging Mr. Neville

Sitting in my favorite corner over at Ches's Place t'other night I hears some bozo shooting off his mouth down the other end of the bar as how he is a cameraman from Indianapolis what's come up to Chi jest to look up some of the boys, and does anyone know where he kin find this here Sassiety Reporter, as he wants to tell the yap a couple of things because he ain't ever mentioned his name in the collum.

He talked real loud like to everybody as to who he was, said his name was Louie Neville, and was one of them movie camera aces down Indianapolis way...jest got married a couple of months ago, and this was the first real night out he had had since.

And he had a buddy with him from the ole home town he called "Baldy" what wuz tellin some of the listeners as to how Neville has become domesticated enough to stay at home of an

evening...wearing lounging pajamas and cooking supper for the little woman while she wuz out playing bridge.

Well, sir, Mr. Louie Neville, if you reads this, that dumb red-headed dope sitting at the end of the bar wuz the Sassiety Reporter, and he did so want to mention your name, but since he didn't have any news to write about you he cooked it up.

It wuz his idear for that big cop to pinch you for carrying a flask...you know, the big tough one what wanted to give you the ride in the pie wagon and what your friends finally talked to and said to please leave you go so's you could go home to the little woman in Indianapolis?...Mr. Neville, this department is at your service anytime.

SIX-SIXTY-SIX

### Pretty Tough

Charlie Geis, one of the severer critics of this humble scribe, ups and tries to incite yours truly to professional jealousy...Says Geis, "Didja ever read Ray Fernstrom's collum in the magazine?"... "No! Why?" snaps I.

"Well, that's what I call a collum!" gurgles the famous Geis. "He gives you real technical dope plus real information about the boys!" Gettin' so like I'll have to give in finally and read this stuff the Dopey Editor, Ray Fernstrom, writes.

SIX-SIXTY-SIX

### Here and There

Between Windy City assignments: Red Kuersten up and announcing his new chicken farm down at Knox, Ind. . . . Red says poultry farming beats lugging a camera around . . . also Red'll ship strictly fresh eggs to any point in the U.S.A., Canada or Australia . . . no order too small to fill.

Charlie David now shooting soundies on the Democratic politicians that got into office.

Jack Barnett recuperating from an auto accident . . . the steering gear broke on Jack's new little red fire wagon . . . The secret's out why Phil Gleason has his shoes made to order . . . size 10 B is what he uses to pound the pavements with.

Martin Barnett finally got to the Cary ski meet . . . but he had to take the little heart along in order to make it . . . Big increase in the population hereabouts . . . It's a gal over at the Morrisons . . . so Papa Eddie wuz busy over the holidays arranging the christening . . . While at Detroit ole Ralph Biddy burns the midnite oil addressing pretty colored cards to the boys announcing the world premiere of little "Ralph Leo."

That war film that packed em in at the McVickers theater titled "The Big Drive" and which is now breaking records all over the east and middle west is a Bull Phillips Production from the sound studios of the Action Film Company.

Bob Travenier has finished a two reel industrial . . . and Reed Haythorne is finally off for the Orient and the hidden spots of the world promising to send back some interesting tales of his escapades . . . and so off to the post office with this tripe with one ston at Ches's Place for a snifter.

### First Yugoslav Film

The first Yugoslav film was recently shown at the Urania theatre in Belgrade. Under the title "The Coast of the Thousand Islands" it shows beautiful landscapes of Dalmatia. From the point of view of photography and sound reproduction the film is reported to be good.



Newsreeler Joe Gibson in the Florida keys. See Page 17.



# Regardless of Technical Advance Picture Leans Heaviest on Drama

By BORIS V. MORKOVIN, Ph.D.

*Chairman Motion Picture Department University of Southern California, who will conduct courses for studio employes during the first quarter of the new year.*

WITH the invention of processes and introduction and addition of sound to cinematography the American motion picture industry reached its point of scientific and technical maturity.

Unfortunately the scientific and technical superiority of the industry does not guarantee the product, perfect in its artistry and in its visual appeal to the public though it may be. The technical and scientific brilliancy of the film without dramatic power is like a beautiful but lifeless body.

The more various and complex cinematic means of expression grow, the more indispensable becomes screen dramaturgy, unifying and animating these means. Not only are executives, producers, directors, scenario writers and editors directly responsible for the dramatic structure of the film, but ambitious cameramen and art directors have to understand their jobs in the light of screen dramaturgy.

Under pressure of the growing criticism of the public registered by the box-office receipts and the tightening economy of the studios the law of the survival of the fittest automatically will eliminate those who

will depend in the dramatic building of the picture merely on trial and error.

In the engineering of an emotional effect upon the spectator's mind the psychological contribution of every little detail has to be weighed with utmost care. Dealing with such an elusive and easily exhaustible thing as the spectator's attention, which has to be occupied during eighty minutes, we have to treat it with great economy and delicacy.

## Story and Character

The subject matter of the screen dramaturgy could be divided into the study of the building material, that is, the study of single dramatic and cinematic details and effects, on one hand, and the building plan or cumulative and emotionally effective arrangement of this material on the other.

For the convenience of classification the building material could be divided again into the story and character building material. The story items briefly are timeliness or universally human appeal of situations and problems given by story; novelty of their treatment; interest-

ing types of the story, human touches and gags, clever and pointed dialogue, pictorial or unusual environment; contagious and powerful personality and the strong conviction of the author instilled into the picture; the effectiveness of the plot increased by the creation of cinematic atmosphere and by the use of intercut and contrasted parallel actions and the like.

The character development and acting material, studied by screen dramaturgy, mainly are the popularity of stars and other actors and their casting; costumes and make-up; movement of actors within the frame, their general acting and "little" movements seen through the close-ups, facial expressions, movements of different parts of body, posture and gait; mental states of actors brought out and emphasized by outward objective means; by situations, reactions of other persons; by symbolism and insert of inanimate objects; by creation of an atmosphere, with pictorial effects of background and composition; by conveying indirect suggestions as to emotional states of the character; by means of contrasted light, restless flickering, increase or decrease of light effects, high or low angle, moving camera, contrasted sound effects, their increase or decrease, music, tempo or cutting, etc.

## Building Toward Climax

All these and many other devices should be used relative to the dramatic value which is assigned to them in the building plan of the picture and with a continuous view to the emotional process going on within the mind of the spectator.

Screen dramaturgy in distinction to stage dramaturgy uses more atmospheric means of expression. It works directly upon the spectator's senses of sight, hearing and kinesthetic sense, and does not depend as much upon the broad acting and dialogue as does the stage.

Each of the foregoing single dramatic and cinematic effects, used as story and character building material, is strictly subordinate to the whole design of the screen drama. The excellence of these details and single devices does not guarantee the powerful total effect upon the mind of the spectator.

In order to achieve a dramatic effect every single device should be used in the building up toward the climax discriminatingly and cumulatively. Crucial moments in the story, decisive steps of character, their mental conflicts and changes, the points of suspense and sub-climaxes—all of these partial steps in the building-up process must be unified and carried on with economy of proportion toward the main climax. This building-up of the mounting line of emotional excitement of the spectator is the most important and most difficult aspect of screen dramaturgy. The lack of knowledge of this technique cannot be redeemed by the brilliancy of single effects of camera, light, sound, background, realistic details, gags, dialogues, excellent casts, spectacular costumes, etc.

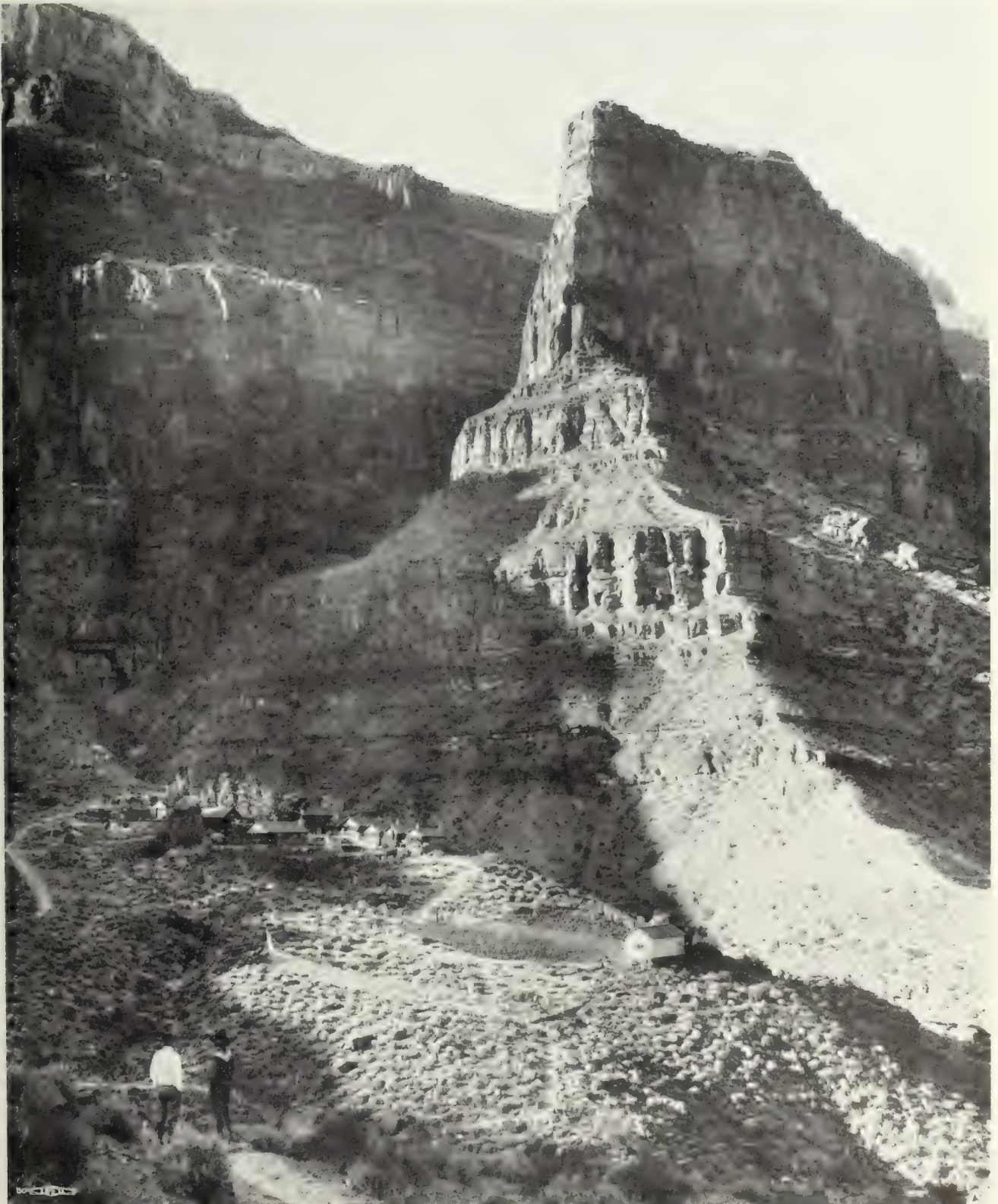


Still from Vitagraph's famous single reeler "The New Stenographer" of the vintage of 1909. From left to right are Flora Finch, John Trozano, Florence Turner, one of the screen's first and most admired stars; John Bunny, comedian who died in 1915 undimmed in his resentment that the fame which had come to him on the screen had been denied him on the stage; at the table Maurice Costello, then one of Vitagraph's leading players and the father of two very small daughters later to succeed on the screen, and Ed Phillips. Courtesy Los Angeles Museum.





# *Cream o' th' Stills*



*What well might have served as a suggestion for these modern "stagger" type skyscrapers is Hermit Peak in Grand Canyon, Arizona, as strikingly photographed by Edward H. Kemp of San Francisco*





# *Cream o' th' Stills*



*Crystal Crag and Lake Mamie, one of the Mammoth group, are shown through the camera of George H. Scheibe, the one in all its vastness and the other in all its serenity*



*View of Kern River, in settings as primitive as were those of eighty years ago when pioneering gold miners broke virgin soil. Photo by Oliver Sigurdson*





# *Cream o' th' Stills*



*Joseph A. Valentine,  
whose pictures  
of famous  
European backgrounds  
have adorned  
these pages  
and cover,  
here shows us  
Jasper National  
Park, in  
Alberta*



*Here is a  
setting to give  
pause to a  
painter in oils—  
a photograph  
exposed by  
Charles W. Miller  
of the  
Philippine  
Education  
Company, Inc.,  
of Manila  
in the lake  
and mountain  
country near  
his adopted  
city*





# *Cream o' th' Stills*



*Emmett Schoenbaum "shoots" wild horses, in Blue Canyon, Arizona. Across the entrance to the corral will be noted the cameras mounted on a temporary platform just high enough to permit passing of the animals beneath*



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## AND YOU'RE HANDICAPPED WITHOUT IT

Put a Raytar on the nose of your camera and get a jump on the whole profession. Here's a new lens worthy of the best efforts of every cinematographer . . . a lens as superior to the ordinary run of lenses as sound films are to the old silents.

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### "Lure of the Lake" Unusual Film Supervised by Wyckoff

**A**N UNUSUAL picture is "The Lure of the Lake," a two-reel subject in color and synchronized for sound by RCA. It was photographed in the Ozarks, in Missouri, between Kansas City and St. Louis. Alvin Wyckoff, head of the west coast cameramen, supervised and directed the picture, the story for which was written by Samuel Judd. In fact, readers of this magazine may recall in the December issue a story entitled

### "Here Is Judd's Tale About Wyckoff."

The picture was produced by Louis H. Egan, president of the Union Electric Light and Power Company of St. Louis, as Scenarist Judd tells us in that story. In the course of that same tale he refers to the apparent harshness of the director because of the unsatisfactory performance of a young woman on a surf board.

It is interesting in the light of the sequel to that incident as we see it on the screen. The ride on the surf board as it is later photographed is one of the features of the picture—

or at least it will be so for many. Under a brilliant sun and shown in all the glamour of colors of flesh and fresh water this Venuslike creature bounding over the lake forms a picture that will live in the memory.

The subject is designed for entertainment, showing the attractiveness and the attractions of the large body of water, over a hundred miles in length and with a shore line of a dozen or more times that distance. Life on the lake as well as around it is pictured, from the air and from the shore and water.



Reception to sound men and laboratory superintendents given by J. E. Brulatour Inc. and Eastman Kodak Company under the sponsorship of Eddie Blackburn at Uplifters' Ranch in Santa Monica Canyon on the evening of January 31. No speeches, no business, no entertainment—not much, maybe, but ask any one present.



# NEWSREELERS' DOPE SHEET

By RAY FERNSTROM

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**S**COUTING about Hollywood, calling on its experts, I have found a few valuable pointers that should certainly be of great interest to you all.

Wesley Smith, the Du Pont expert, showed me some marvelous pictures shot on the new Du Pont Superpan using a 21 filter. This is of orange color, and calls for a stop and a half more opening, but makes a corking all-around filter for this negative. Try it and give us a few stills for this column.

Wesley has promised us good stills from his Vancouver trip, soon as he comes back. These should prove both of interest as to examples in the use of filters and film and as scenes from a trip to interesting places. We'll be waiting for you, Wesley.

You fellows who have been using our 23A for cloud effects and air shots will find a combination of this and the 56 of particular interest if you wish to cut down on the contrast. Without losing all the advantages of the red, the addition of the 56 keeps a satiny soft sky without the old blackness. When using this open up five full stops.

This wide opening brings me to a point I have been wanting to tell you. Here in the studios they seldom close down as much as we do on news. Photographic quality is better with a larger opening. If you can't cut down on your shutter try the neutral density filters or the 5N5 as recommended in our earlier filter chart.

More on this subject, as you ask for it. So do.

## Two Filter Examples

Mentioning the 5N5, which is a combination of Aero 2 and a neutral density filter and requires three full stops more opening, reminds me of the great value of the Aero 2 for all around purposes.

Ned Van Buren, Eastman expert, gave me a couple of perfectly beautiful pictures, as you will agree. They show not only a fine example of filter use but are works of art. Both of them were shot on Eastman supersensitive pan with the Aero 2 filter. There's a filter for all use, if you can't remember more than one. You can use it for every purpose except interiors and in very bad light. If some of you think that filter isn't heavy enough for your clouds, take a look. Note the detail away down in the shadows. The use of only one filter, of course, goes for you fellows who never use filters but want to try one for a starter and do not wish to get mixed up. Allow a stop and a half more opening than if you were going to shoot the scene without a filter.

## Diffusion Disks

Often a newsreel man wants to add a bit more beauty to a particular shot than can be obtained with just the lens and a chosen filter. I recommend the use on such shots of a diffusion disk together with the filter. You can buy these almost anywhere,

and they are easily rigged in front of the lens.

Look at the two gorgeous pictures Van gave us. One was shot with a disk and one without, although both were shot with the Aero 2 filter. The one of a tree, with mountains in the background and billowy clouds above, was taken with the disk.

Study these and you'll always want to filter your shots and strive for better photography in the good ole newsreels.

With all the staffs having men stationed all over the world we certainly don't see a representative coverage of the world. How often does one see feature subjects from Bulgaria, Korea, Finland, Czechoslovakia, Alsace Lorraine, Switzerland, or even Mexico and Alaska? It would seem about time, now that news reels are on the pan, to spread out and give the movie fans something fresh. Novelty is news and everyone likes a new slant on places and a glance at new spots of the world. A lot of us do our traveling from a theater seat and depend regularly on the newsreels to satisfy us.

It is with the idea, in some small way, of being of help that I write this.

Although the camera and sound men of the newsreels are urged on to win by the competition within the family of each newsreel and by the competition between newsreels for scoops, the possibility of an award from the Academy would certainly spur the newsreelers on to the benefit of newsreel quality in general. Already two newsreelers have received Academy awards, but not for their efforts on newsreels. These were for the production "With Byrd at the South Pole," Joe Rucker and Willard Van Der Veer. I'm sure all other newsreel men would like an opportunity to win such distinction from the industry.

## Universal Newsreeler Writes

561 N.W. 9th St.,  
Miami, Florida.

Dear Ray:

Just a few lines to let you know I enjoyed reading your Ray-vings in the Dope Sheet.

Well, I am back in my old hunting grounds, just come off a story with some of your old friends, Walter Hagen, Gene Sarazen, Ciuci, Perkins, Costello, and a few more golfers on a fishing trip in the Gulf Stream off Key Largo. Carl Larsen, Jim Pergola and Lou Hutt were in the party, so you may know a good time was had by all.

Remember the time we shot the 1929 World's Series from the roof of the house across from Shibe Park, in Philadelphia, trying to cut through the smoke and haze with 12-in. lenses? And now you are talking about filters. That's the time we needed filters—and how.

I will be down here for the rest of the Winter covering the Florida events. I will be at Daytona Beach on the speed trials, doing a little fast panning or flying as last year.

Give my regards to all the boys.  
Yours to a cinder,

JOE GIBSON.

Dec. 11, 1932.



Ned Van Buren supplies a beautiful example of Eastman supersensitive gray-back with aero 2 filter and diffusion disk.





Left, Crew 71 Fox Movietone News—Allyn P. Alexander, the famous "Newsreel" Wong and Paul Heise on location in the Forbidden City of Peiping just after making the first sound pictures ever made inside. Right, long shot of soldiers marching and singing over the famed Five Bridges over the River of Gold. This is inside the Forbidden City, and it is the first time such a picture was exposed.

## Allyn Alexander Writes from China Giving News of Newsreelers There

By R. F.

THANKS, all you guys, for the swell Christmas cards, and here's Happy New Year to you.

Allyn Alexander sent one from China, where he's chasing a Chinese general, Chiang-Kai-Shek. Al tells me the general's wife is a graduate of Vassar. Well, here's the story (in part) as he tells it in his letter:

I'm up here on the elusive trail of Gen. Chiang-Kai-Shek. We've spent two weeks and made three pictures. We are going to make an interview with him in the next few days and then on down to Nanking for several other subjects I have in mind. The General has a cold, though, and he expects to be all right within the next few days. We're going to have his wife in the picture. She'll do the interpreting. She is a graduate of Vassar and talks better English than I do.

Just finished a picture of a bunch of coolies lifting a huge stone hammer weighing about four hundred pounds. They use this to pound down the earth for a foundation for a building. They stand about fifteen feet above the ground on a scaffold, and while working they sing a song.

The song they sang while we made the picture had to do with "foreign devils making us work all the harder." I didn't know it at the time, but Wong told me about it later. There are a few choice phrases that go with it. I'll leave it to your imagination!

Dick Maedler, Johnny Bockhorst and Jack Dunne passed through Shanghai several weeks ago on their way down to Penang, where they are to start production on "Man Eater." You'll recall that it was Dick Maedler that shot "Congorilla." I don't know whether you know him or not. Of

course you know Bocky. Paul and I showed them China in two days . . . (and how).

The mail boy just came in with a note from Bocky written at Manila. He says they just got through their final checking of the nine tons of equipment and they're all set to start work when they reach Penang. Good luck to them! Bocky's large bucket will make a nice mark for those "Man Eaters." I'll bet the boys turn out a great picture.

### Kruse's Dance Club Draws Praise from Civic Leaders

THE Paraval Dance Club will be opened at 2905 Sunset Boulevard, at the intersection of Silver lake avenue, by J. Henry Kruse, I. P. The only licensed dancing club in Los Angeles, it will be open on Tuesday and Friday evenings for dancing, card playing and entertainment. In attendance will be Mr. Kruse's own five-piece orchestra. Civic leaders have praised the general plan.

The Paraval is a straight club plan, with dues of \$1 a year and 25 cents entrance fee each evening. Guests are admitted only as guests of a member, at a charge of 35 cents, or may come up once as guest of the registrar at the 35 cent fee. No refreshments are served.



Another perfect lesson with the all-around aero 2 filter on Eastman super-sensitive grayback negative but without the diffusion disk.



EASTMAN  
FILMS

## BRULATOUR

WHAT'S WHAT!

Published Monthly by J. E. Brulatour, Inc., Distributors,

## "STATE FAIR" IS FILM TRIUMPH

Fox Production Acclaimed By Critics—  
Studio Technicians Share Honors

THE press has seen "State Fair." Orchids are being tossed to Winfield Sheehan, Director Henry King, Will Rogers, Janet Gaynor, Sally Eilers, Lew Ayers and the rest of the great cast, and great bunches of verbal posies are being thrown in the direction of the technical staff who have so creditably repeated their masterful achievements on "Cavalcade."

Photographically, "State Fair" is a mighty monument to the artistic genius of Hal Mohr, whose camera work is conclusive proof of the superior qualities of Eastman Supersensitive Negative. The fine delicate shadings, the mood of simplicity, the sense of reality in deft definition, harmonizes perfectly with this simple story which is as American as our very soil from which the story has sprung.

Mohr's crew included William Skall and Irving Rosenberg as seconds and Bob Surtees and Milton Gold assistants. Two cameras were used on the production wherever possible.

The Fox West Coast Laboratory staff also comes up for a share of the popular applause for its intelligent handling of the negative, the sound track and the first run release prints for the key cities. We were privileged to see the twenty-seventh print, which would have been a credit to any laboratory as a master print.

Joe Valentine and Ed Hammaras were sent to Des Moines (Iowa), where they photographed the background plates, atmospheric shots and the great race sequences, and in this latter case we'd like to step up and offer a basket of our choicest spring flowers to the cutter who is responsible for the fast moving action and suspense.

Camera angles on this race stuff are most unusual. The cameraman who made this used something besides his camera and film. The backgrounds are perfectly matched, and this is the first big feature to employ, for this purpose, the new Eastman Grayback Background Negative.

The production was recorded by A. L. Von Kirbach, under the general supervision of Ed Hansen, Sound Engineer of Movietone City. There's just nothing adequate for us to say about the achievement of the sound department. Truly, and literally, the results speak for themselves, but we can't pass along our enthusiastic path without pausing to thank these good technicians for proving to us just how far we have progressed in the manufacture of our newest film product, Eastman "1359" Sound Recording Film.

The Fox Recorders have taken advantage of the broader characteristics of this splendid emulsion and they've

come through with a result which will bring compliments to many an exhibitor whose patrons will undoubtedly feel that an improvement has been made in the sound reproduction equipment of the theatre.

While we're distributing bouquets to the staff of "State Fair" we mustn't overlook Don Kramer, the art director. When you see the picture you'll know why. "State Fair" is an eloquent and convincing argument for all our claims in our discussions of Eastman Supersensitive Panchromatic Negative, Eastman Grayback Background Negative, Eastman "1359" Sound Recording Film and good old reliable Eastman Positive, which has always set the standard for maximum best in release prints.

In fact, after the judges have awarded Ma the blue ribbons for her mince meat, her sweet pickles and her sour pickles, and after Pa pulled the Blue Silk for "Blue Boy" we're right up in line with chest protruding for the inevitable ornamentation of a Prize Blue Ribbon for Eastman Films.

So on with the show—"Okay, Hollywood."

## M. G. M.

This "Pig Boats" thing isn't a gag. We've had it in our last three or four Bulletins, but it still floats, and HAL ROSSON continues at the camera when he is not taking golf lessons at one of those driving courses out along Pico.

OLLIE MARSH is turning in an unusually fine job on "Turn About," which is the Joan Crawford starring story in current production. Eddie Fitzgerald and Kyme Meade continue on and on and on and on as his associates.

NORBERT BRODINE, who bounces off and on the M.G.M. lot like a rubber ball, at this moment bounced right back there after a very short vacation and is photographing "Clear All Wires" under the direction of George Hill. Brodine's recent work stamps him as one of the best in the business, and among those who cheer we'll yell the loudest every time he gets a good break like this one.

His playmates on the "Wires" are Dick Wade, Harold Marzorati, Tom Dowling and Jess Ivey.

PEV MARLEY, who returned from Europe about a month ago, is back in production on the M.G.M. lot, where he is turning in a slick job on "Rivets" under the direction of Todd Browning. Pev is seconded by Paul Vogel and assisted by Al Scheving.

DAN CLARK was called by this studio to do some difficult exterior shots on "Turn About." Dan's work made such a hit that weeks have gone by and Johnny Arnold is holding him on the job where he draws most of the special assignments in the tough spots.

## Warner Brothers

JIMMY VAN TREES is all a-twitter over Barbara Stanwyck; travels all the way to Brentwood Park to visit "Ye Ed" just because he happens to live across the street from Barbara; bores us to death telling us how gudgeous she is, what a swell actress, what a grand this, what a great that, and casually mentions that "Baby Face" is going to bring new medals to Al Green, who is directing.

And listen, Playmates: when that old sphinx Jimmy Van Trees starts to rave about a picture we'll bet plenty (if you'll take our note) that "Baby Face" will entice plenty of dough up to the box office. Lou Jennings is the second cameraman and Jimmy Van Trees, Jr. (who also allows that Miss Stanwyck is a swell dish) is the assistant.

TONY GAUDIO hopped off "Silk Express" on Saturday to take a nice vacation, but they nailed him quick and he landed behind the camera for "Private Detective." Bill Powell's starring vehicle, which is directed by Michael Curtiz. Associated with Tony as his second is Al Green, who held a real spot with the late Bob Kurrle for about twelve years, and Johnny Shepek toils as his assistant.

Incidentally, we've just learned that Mrs. Green's naughty boy Al has gone and got himself all married and consequently is all happied up, but inasmuch as he hasn't seen fit to tell us about it personally or by note we're merely going to wish his wife all the good things which otherwise we would wish both of them.

DICK TOWERS has a very interesting assignment whereby he is being sent to cover all of the Warner Brothers Theaters, shooting tests of new talent for the forthcoming W. B. special, "High Life."

## McCord Held Up

Not by highwaymen (the popular pastime after sundown in Southern California just now), but by the rains of which we have had plenty during the past two weeks, Ted McCord has been held up on production of his current Schlesinger-Rogell production, starring John Swain. All of the sets are of the Spanish adobe type, and this is right up McCord's alley. His photography is unusually fine on this production, and if the weather man makes good and gives us sunshine for a few days, the picture will shortly be completed.

## Foy Studios Resume

Bryan Foy Studios are preparing to go into production immediately on another new feature for Columbia distribution, and in addition to this several comedies were finished during the past few weeks. Bill Thompson has been at the camera on all recent Foy productions.

## Hal Roach Reopens

Hal Roach Studios have reopened after being dark for several weeks, and first unit to start spotted Art Lloyd behind the camera—and there is no more news to interest our readers here because they all know exactly what Art does with a Roach comedy.

## Warren Continues

Dwight Warren continues at the camera at Educational Studios for the comedies being produced under the supervision of E. H. Allen

## Al Gilks Witho



While Al Gilks is concerned with the background also is shot at the photographer's left's too, is the Eastman Super

## RKO

BERT GLENNON has wound up camera work on "The Great Dixie" under the direction of Dorothy Arzner and starring Radio's newest bet, Katherine Hepburn. RKO held down the spot of second cameraman Charley Burke as assistant.

LEO TOVER completed the Dix picture, "The Great Dixie," Biroc (newlywed) second cameraman and Willard Barth, assistant.

AL GILKS, the old marine, whose classic silhouette is chosen as the operative feature of this month's Bulletin, has been spending some days (and nights) out on the Pacific, shooting whales (and just Super-sensitive Grayback Panchromatic Negative).

He had enough of a crew to hold a convention at any minute—material for such purpose as Hoke and Lloyd Knechtel, associate firsts, Burney Guffey as solitary second, and Jimmy Dixon, photographer who pulled the strings out of the silk hat to snap the picture shown here, Bob Brunner, Jack and Bill Clothier made up the singing quartet of assistants.

CHARLES ROSHER has finished Constance Bennett picture, "The Tenth Hour," which was directed by George Cukor. Same old crew with Jimmy on this, which incidentally is the old alley on the standard RKO's always excellent photographer Frank Redman, second; Cecil as assistant.

EDDIE CRONJAGER has just completed a very interesting picture of department store life, which called tag "Sweepings." John Cronjager directed. Bob DeGrasse and George Kant did the heavy work for the



# BULLETIN

EASTMAN  
FILMS  
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Films, in Cooperation with The International Photographer

WHO'S WHO!

## on Shoots Whale



shooting a whale Jim Daily in  
while—of a still. The harpoon  
se, just r'arin to go—and so,  
Grayback Negative in his

## Universal

GEORGE ROBINSON has completed  
"The Big Cage." He can now forget  
out animals and jungles and  
some time to "Breaking Eighty"  
the various golf courses. But we  
mention, too, that when he was  
young "The Big Cage" he had Al  
on and Jake Kull as seconds and  
Hill, Jack Eagan and Lloyd Ward  
assistants.

KRL FREUND returns to his old  
ve (the camera) for one picture.  
ar who directed "The Mummy,"  
as waiting for the story department  
tip his next story into shape, so  
rly Whale prevailed upon him to  
od his current picture, "Kiss Be-  
rehe Mirror." King Gray and Bill  
are associated with Karl.

JERRY ASH has a great assignment  
ing "Niagara Falls" . . . Romance  
dneymooners, etc. James Drought  
dloss Hoffman, who are with Jerry  
p camera staff, say they are going  
ke Niagara on all their honeymoon  
trips.

LN POWERS is shooting a feature  
nd comedy with George Sidney and  
has Murray called "Salt Air."  
hil George Stevens is directing  
Stens formerly was a cameraman  
nd good one, too). With Powers  
e nd Dick Fryer as second and  
ain Glouner and Walter Williams  
assistants.

## Siegler With Meteor

A Siegler is photographing another  
in McCoy Western under the direc-  
on of Ross Lederman for Irving  
rin, president of Meteor Produc-  
on (distributed by Columbia). Pic-  
ures are being made at the Gordon  
re Studios.

## Paramount Studios

Fan magazine writers have a lot of  
this and that and the other thing to  
say about some of our sizzling sisters  
of the screen which, judging by the  
circulation of the fan mags, is exactly  
what the girls in Waterloo, Iowa, want  
to read. However, we are waiting to  
see the inevitable story (by these same  
writers) telling a breathless world all  
about what a cameraman does on a  
rainy afternoon.

We are afraid that the real story of  
the activity of a couple of photogra-  
phers at Paramount would not shape  
up into the kind of sensational material  
that seems to click in the gay journals.

Here's the lowdown: VIC MILNER  
and CHARLIE LANG came out of the  
commissary the other afternoon and one  
of them started whistling a little strain  
from the popular melody—"What to  
do about it—let's turn out the lights  
and—"

But the other bird immediately said,  
"Nix. I've got a better idea. Let's go  
over to the vaults and get out all the  
pictures which we made for Paramount  
during the past five or six years and  
start with the oldest one and project  
them, and see just what's actually  
happening to our work—whether we're  
improving it—whether we've forgotten  
any of our old tricks—whether they're  
still good—"

Meantime the other bird stopped  
whistling and the boys went to it.  
From 1 o'clock until far into the night  
they ran feature after feature. Both  
boys frankly admit they have made  
very decided forward strides in their  
work.

As projection progressed they found  
a marked improvement in the photo-  
graphic quality, and although they did  
not mention the matter to us we were  
glad to hear their opinion on the chrono-  
logy of their work because naturally  
we never lose sight of the fact that  
right in step with the advanced achieve-  
ments of the photographer we also find  
(and so do they) a decided forward  
march in the quality of Eastman pan-  
chromatic negatives, which these two  
photographers have used generally  
throughout their productions.

MILNER is all pepped up with his  
assignment which calls upon him to  
photograph Marlene Dietrich in "Song  
of Songs," which Rouben Mamoulian  
will direct. Associated with Vic will  
be (as usual) Bill Mellor and Guy Roe.

LANG has just started the Maurice  
Chevalier picture, "A Bedtime Story,"  
under the direction of Norman Taurog.  
Bob Pittack and Clifford Shipser con-  
tinue to do the manual labor for  
Charles. Incidentally, Lang's photog-  
raphy on "Farewell to Arms" is bring-  
ing new acclaim to this fine pho-  
tographer.

GILBERT WARRENTON has turned  
in final scenes on "A Lady's Profes-  
sion," which was directed by Norman  
McLeod. Fred Mayer was Gil's second  
and Neal Beckner his assistant.

HENRY SHARP has just completed  
"Hell to Heaven" under the direction  
of Earle Kenton. Immediately upon com-  
pletion of his production Henry bundled  
his charming mother into his car  
and headed for their ranch down San  
Diego way. His staff associates, Otto  
Pierce and Paul Cable, drew other  
assignments and continued the grind.

MILT KRASNER, who was recently  
advanced to the ranks of first camera-  
man, has completed his first production  
for Charles Rogers (Paramount),

## NEW SOUND FILM APPROVED

Some months ago we very quietly introduced a new sound  
recording film, which since has been generally accepted and ap-  
proved by many of our good friends in the sound field. This film  
is identified to the trade as Eastman "1359" Sound Recording  
Film and won its initial big public acclaim with the premiere of  
the Fox production "Cavalcade" at the Chinese Theatre.

## Fox

L. W. O'CONNELL, who was asso-  
ciated with Ernest Palmer on first  
camera for "Cavalcade," the Fox pic-  
ture which is sweeping old box office  
records right and left, has been given  
recognition for his usual fine work and  
assigned to the first camera of Jack  
Dillon's production, "Road to Heaven,"  
as prophesied in these columns last  
month. Conny is a great student of  
photography in both theory and prac-  
tice. He really knows what it's all  
about, and apparently some of the  
production boys are just awakening to  
this fact. Conny can render any beau-  
tiful woman more beautiful; he can  
make Bull Montana look like the man  
in the Arrow collar ads, and his ex-  
teriors are delightful, poetic concepts.  
(NOTE: L.W.O.C. The Brulatur Bul-  
letin carries no paid advertising.)

LEE GARMES, winner of last year's  
Academy Award for outstanding pho-  
tography, is setting the camera and  
lights for the Jesse Lasky Fox produc-  
tion, "Zoo in Budapest," which is  
being directed by Rowland Lee. We  
haven't seen the rushes, but we have  
Mike Leshing's word for it that even  
the hyena is beautiful. (We wonder  
whether there is a Russian wolf hound  
in the zoo.) Warren Lynch is second  
cameraman on "Zoo" and "Slim"  
Cruze is the assistant. Our reporter  
advises that "no supervisors are al-  
lowed in the zoo." Why?

LUCIEN ANDRIOT has been assigned  
to "House of Refuge," the Al Santell  
production which is scheduled to start  
turning as we go to press.

HAL MOHR ("State Fair") is also  
assigned to a production starting same  
date. Picture will carry the title  
"Warrior's Husband."

ARTIE MILLER, who has moved  
right in as a regular at Movietone City,  
is on the Raoul Walsh production,  
"Sailors' Luck." Miller has made an  
excellent record since joining the Fox  
camera staff, and will undoubtedly be  
set in on some of that company's forth-  
coming important productions. J. La  
Shelle and Joe MacDonald as the sec-  
ond cameramen; Bill Abbott and  
Harry Webb, assistants.

ERNE PALMER, the old maestro  
who covered himself with glory for his  
splendid work on "Cavalcade," is in  
production on the Frank Tuttle pic-  
ture, "Pleasure Cruise." Palmer has  
been highly praised by cameramen who  
have seen "Cavalcade" since the open-  
ing at the Chinese. Associated with  
Ernie on the Tuttle picture are Don  
Anderson as second and Stanley Little  
and Robert Mack as assistants.

"Strictly Personal," under the direction  
of Dudley Murphy. Faxon Dean and  
Lloyd Ahern were associated with Kras-  
ner on the production. The success of  
Milt's first effort is emphasized in the  
fact that he has already been given an  
assignment by Mr. Rogers for his sec-  
ond picture.

✱ Critics on almost every one of  
the metropolitan dailies gave  
special lengthy space to com-  
ment on the fidelity of sound in  
"Cavalcade." Other sound en-  
gineers and technical executives  
who have been most generous in  
tossing about compliments on  
the new film are Franklyn Han-  
sen of Paramount, John Liva-  
dary at Columbia, Major Levin-  
son of Warner's, Tom Moulton  
of United Artists, Robert Engler  
at Metropolitan and Ed Hensen  
of Movietone City, who have  
been most encouraging in the  
nice things they have told us  
about this newest Eastman film  
product. They all assure us that  
the speed and emulsion charac-  
teristics of this film are most  
helpful in aiding them to deliver  
a generally better and more con-  
sistent sound reproduction from  
the screen.

## Columbia

BENNY KLINE has finished the  
Clarence Badger picture, "Fever."

JOE AUGUST has finished the Bar-  
bara Stanwyck picture, "Parole Girl,"  
which Eddie Cline directed.

JOE WALKER is shooting "Beneath  
the Sea," which Al Rogell is directing.  
Andre Barlatier is very ably taking  
care of second, while George Kelley and  
Bob Tobey are the assistants. They  
have several real live octopuses in this  
picture . . . very interesting.

Marty Crail, assistant to Emil Oster  
in charge of the camera department,  
proudly beams and shows to any and  
all who call a photograph of the new  
and very, very charming, too, Mrs.  
Crail. May we add our felicitations?

## Stout Switches Back

Archie Stout found time between  
Western features at Paramount to re-  
turn to his old associates at Trem Carr  
Studio to shoot a Western with R. N.  
Bradbury directing Bob Steele in  
"Breed of the Border," and of course  
he has Russ Harlan with him as  
assistant. Immediately upon comple-  
tion of the Trem Carr picture Archie  
returns to Paramount for another fea-  
ture.

## Edeson Again

Arthur Edeson is again at the cam-  
era at the K.B.S. studios where he is  
turning in final shots on the Victor  
Schertsinger production, "Auction in  
Souls," which is being made for World  
Wide (now Fox affiliated) release. Ar-  
thur is scheduled to start another fea-  
ture at this studio immediately upon  
the return from New York of Sam  
Bischoff, who was called east with other  
top studio executives two weeks ago.



# "OUT OF THE DIARIES OF THE UNSUNG!"—by Fred Felbinger

By Arrangement with

**NORMAN W. ALLEY**

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In Seven Chapters

## CHAPTER THREE

**N**ORMAN ALLEY and Jerry Altflisch stowed the sound camera equipment aboard the plane and everything was in readiness for the hop from Hopedale to the Coast of Greenland. The hazardous adventure of spanning the great wastes of the northern Atlantic was at hand. After the ship gained altitude the crew settled down in the cabin to the ever-monotonous staccatto of the motors as the ship winged its way out into space. Redpath made a few brief notes in his little diary:

After obtaining fair weather report from Gotthaab we set out across the sea. Fine and clear, altitude 2000 feet, temperature 58 degrees. About 7 hours out run into fog bank. Bubble sextant out of order, so flew down to 100 feet and took marine sextant sight very poor horizon. Also took final drift observation. Sight fairly OK. Speed 105 mph. Climbed above fog. Ran into it where upper and lower layers met. Tough going.

Norman Alley, too, was musing over in his mind his presence on this strange adventure. He wrote into his record:

This flight to Greenland isn't going to be any picnic, with the extra weight and uncertain weather, and it seems a shame to look at the two girls squeezed in here without any perception of what it's all about. They have been terribly airsick on the way from New York here, and I hope they'll get acclimated soon, as it's no fun playing nurse when New York expects you to be taking movies.

Jerry has been trying to do something with the radio outfit. Claims he hasn't been able to work it yet, and that it might make a good anchor.

Jerry was able to hear Hopedale about an hour out and flashed them all OK. Two hours out and he is unable to receive anyone. Some set!

### Fog and More Fog

We run into a light overlay of fog about two hours out and find it broken in spots. It is laying very low to the water, so we keep above. The water comes under us again at the two-and-a-half-hour mark and we cruise along about a half hour in clear weather. Made some movies going in and coming out of the fog.

Three hours out and we're running into another bank of fog. This time it seems much thicker and extends all across the horizon. Pete makes some hurried observations, drift, etc., before we are forced above. He is unable to take a drift reading unless he can see the surface.

Four hours out and we're still climbing to keep above the fog strata. Outlook not so hot, as we are now more than 50 per cent beyond our fuel capacity and must keep going regardless of what weather we find. Hope we don't find fog over the coast of Greenland.

Now the leaded sky is beginning to close down on us. About ten miles ahead we see that clouds and fog are joining. We are 9000 feet now, and the motors are cutting out due to ice in the carburetors. We have at least one and a half hours of fog behind us and nobody knows how much ahead. We can't climb any more, so it looks like our blind flying weather is here. Joe has been working the throttles back and forth to keep the ice broken as much as possible in the motor.

Here we go into the flour barrel! Nothing visible beyond the wing tips, just like a large bottle of milk with a fly in it!

Suddenly, after less than two minutes of total blind weather, the ship starts doing a waltz, and I can feel myself banging against the cabin sides. We are now very definitely in either a spin or a very tight spiral—and losing altitude fast. Hutch is unable to bring her around.

Well, there is nothing to do now but wait and pray that the fog is not laying on the water as it was when we started into it. Down, down we go. The up and down indicator has done a complete somersault!

### Again on Keel

A lot of good aviators have gone out in such a situation, but most of them never had the modern instruments we have and certainly they never went quite so wholesale! Here's hoping we come out of this stuff with enough clearance to get the ship back to her senses. We need about 1000 feet if it's a spin we're in.

We're down now to about 2000 feet and the fog is getting thinner, thank God! Now we're in the clear and have enough room to straighten the big ship out. Boy, what a feeling! As we come out and get level again the distant coast of Greenland looms up!

## Previous Chapters

**I**N the January issue of International Photographer was printed the opening of this story compiled by Fred Felbinger from the diaries of four men who told first hand of their experiences in the loss of the plane City of Richmond in northern waters—better known to fame as the ship of the Flying Family.

Three of these diarists were of the plane—Norman W. Alley, cameraman, and Jerry Altflisch, sound man, both members of Chicago's International Photographers, and Peter Redpath, navigator. The fourth was Alex Main, first mate of the Lord Talbot, the rescuing ship.

The introduction tells of the start from New York with a complete camera and sound equipment and of the ship's stops at St. John, Port Menier, near the mouth of the St. Lawrence, and Hopedale, Labrador. The first mate of the Lord Talbot describes the trawler's departure from Aberdeen, Scotland, bound east for Greenland. Among other interesting things the mate tells of these hardy fishermen slipping along through northern waters and by wireless laying money on a horse back in England—backing him to win and the animal running second.

Turning to Redpath's diary at this stage of the flight we find the following entry:

Saw Greenland coast, about a half hour later. Hauled into coast in order to run up it, as afraid to rely on charts (though charts of Greenland are better than those of Labrador. However, there is still plenty of room for improvement!) Fredericksshaab glacier excellent landmark. Proceeded up coast without difficulty to Gotthaab.

Danish government wisely refused us permission to fly over icecap.

And safely reaching the Coast of Greenland Alley ended an important chapter in his life as a knight of the celluloid. However, not realizing at the time that he was yet to record a greater, more adventurous tale in his book of memoirs. . . . At this time he made the following notation in his diary:

Well, anyway we're in Greenland and needless to say the Danes don't like it a bit. We have got to wait for official permission from Copenhagen before we can continue. It has been decided definitely that we will not attempt to fly across the ice cap. Instead, we shall go around the coast line stopping at Juliannahaab for fuel and then proceed to Annagsalik, from where we hop to Iceland.

The coast of Greenland is totally uninhabited excepting for the three colonies, Gotthaab, Juliannahaab and Annagsalik. A treacherous country



to fly over; nothing but mountains and fjords.

#### CHAPTER FOUR

**A**FTER tarrying at Gotthaab long enough to make the necessary governmental arrangements to fly over Danish Territory, the adventurers of the air again "shove off" according to the diary of Redpath:

After four days at Gotthaab took off and proceeded down coast toward Juliannahaab. Flying low about 250 feet on account of fog, keeping careful lookout for icebergs, of which there are many. Finally recognized Frederickshaab glacier through the fog. Flying at 100 feet, as fog settling on water. Decided to head up a fjord which was clear and land. Plenty broken ice.

Commenced to head up fjord on to ice cap and give Norman a chance for some pictures. On reaching altitude of 4000 feet could see to the southward that fjords were clear of fog and so continued toward Juliannahaab. Passed within five miles west of Ivigtul. Had slight difficulty in finding Juliannahaab, as took the "J" of name for position of settlement instead of "B" as within the chart. Spent several days here awaiting weather, fog and low ceiling seemingly endless.

Of this hop Alley wrote:

This leg is quite uneventful but good for movies. Pete does a good job of navigating and we locate our point on the nose.

#### 11,000 Feet Up

And here at Juliannahaab preparations are made for another leg of the journey, which at the time seems like an uneventful hop but which is to end dramatically; which for a time looked to the rest of the world as another tragic ending along the road of high adventure. Let us read it from the diaries of Peter Redpath and Norman Alley. Redpath entered the following in his:

Sunday morning. Fine and clear and fair weather report from Angmagsalik. Took off at 10:30 GMT and headed for foot of fjord. Had to circle for altitude to clear mountains. Up 11,000 feet. Temperature 15 degrees and level with several mountain peaks which are shown on the chart to be only half our altitude. Crossed ice cap a few miles south of Ludenows fjord—a magnificent spectacle from the air, but terrible in event of forced landing.

Came down to 4000 feet and proceeded up coast making 109 mph. Fine and clear. 1:40 GMT off C. Set course 68 degrees mag. Strong head breeze, speed about 85 mph. Thick weather in distance. 2:30 GMT hauled in a point. Trying to skirt blizzard closing in.

And turning to Alley's diary we discover the following:

We shove off for Anmagsalik 500 miles north up the coast—weather good at takeoff, but we have to go

high to clear the peaks at the lower tip of Greenland, 11,000 feet at one point. Swell pictures. Uneventful flight until about an hour out of Anmagsalik we run into a bank of thick fog.

Go above for a spell and note that it is general in the line of our flight, therefore rather than risk another spin into nowhere we go below the bank and continue. It starts to come down rather suddenly and we are forced down to about 100 foot altitude to stay out of it.

#### Forced Landing Looms

The water under us is full of broken ice cakes and now the larger bergs are causing concern. It starts to snow rather heavily and Pete hauls the ship around a bit to try and skirt the dirty stuff. However, we are now flying almost on the water and dodging all around to keep from crashing into a berg. They are brutes for size.

All we can see of them is the bulky part under the fog, but they must be several hundred feet high. It's too tight now to turn around, and only a question of minutes before we will have to attempt a forced landing.

Almost impossible to see ahead of us and we will take plenty of chance of hitting one of these ice cakes by landing. However, here we go. Joe pulls the throttles back and we're down almost on the water. Just as we were to hit Joe pushed the gas ahead and we continue on a few hundred yards more. The water is extremely rough and he is choosing a bit of lee behind a huge berg where it might be quieter. We land, jumping from one swell to another and luckily nothing seems to have been punctured.

We are about one and a half miles

off shore with plenty of ice in between. Pete looks the situation over, and after determining our approximate position, gives Jerry a message to send. Jerry gets through to the radio station at Anmagsalik and they relay the S O S to the only ship in the region with a wireless aboard—the Lord Talbot.

Immediately afterward our radio goes out due to water coming in. The sea is breaking well over our top wing by now. We are taxiing around in between hundreds of big icebergs for an hour and a half when one of the wing pontoons is punctured. This means beaching the plane immediately.

However, the off shore wind is so strong it is a difficult job to get the ship turned around and shoreward even with full rudder and one motor pushing.

#### We Tie to Rock

Finally Hutch yells to me to climb out on the left wing and act as a sort of human anchor, which I do, and the ship comes around toward shore. I get drenched through trying to hold on against the sea and wind as we taxi inshore. We reach a point a few yards from a precipitous rock formation. The motors are out. The ship begins to turn out again and I jump off the tail section into the water with the rope.

It is a wet task getting to the rock with the rope and a strenuous one trying to secure the rope on to anything after getting there. A few moments later Pete jumps ashore and we both are able to tie the rope around a ragged rock end.

By this time the left wing is going down and the next few minutes are used to get Mrs. H. and the girls



"The ship stayed afloat for about twelve minutes."—Norman Alley.

Photo Courtesy London Daily Sketch.



ashore, which we accomplish without them getting drenched.

The ship stayed afloat for about 12 minutes, during which time we got off all food, fuel and clothing possible, together with such movie films as were handy. The crew foraged about and located a split rock about a quarter mile from the spot. We came ashore and to that place we hiked the salvaged goods.

Janet Lee showed a marvelous amount of stamina and courage for a girl her age. She was right along doing everything her small frame would allow in trying to help get necessities done. Katherine came down with a hard cold and Mrs. H. nursed her through the next twenty-four hours.

We salvaged the rug from the ship and used it for a flooring. Nothing but stars were overhead the first

night, and it was cold, about 20 degrees above, although during the day it was higher, about 28. The tarpaulin covering used to cover one of the motors was salvaged, and although circular in shape and only wet canvas served to keep some of the cold blast off the family as they laid down. Some pieces of Eskimo fur which I had bought at different points came in handy in covering the girls.

#### Jerry Does the Trick

During the morning Pete and Joe went down to the wreck and managed to cut off the fabric from the top wing panel of the plane which was still showing above water. With this they covered the crevice we used for a camp and kept out more of the weather.

And here on this bleak island in nowhere Jerry Altphilisch, a sound en-

gineer in the newsreel game, makes a brief, concise entry in a simple log he is keeping on his part in this drama:

I sent out first S O S from KHNP at about 12:30 and was answered by OZL of Anmagsalik. Sure was glad to hear him come back. He calls out for help and gets in touch with GCYP, the Lord Talbot, and finds him only two hours from our spot. I at once give OZL the position of our ship, which Pete Redpath gave me. GCYP could not hear me, so all communication was through OZL. Batteries go down and I can't send any more.

Just a few brief words to the reader, but an unassuming, modest record of a heroic, noble task well done—a task responsible for the rescue of eight unfortunate souls.

(To Be Continued)

## *May Be Near Light Without Heat, As Philosophers Long Have Sought; Photo Taken by Heat Without Light*

SOMETHING new under the sun photographically speaking, even though the sun was shut out from the room in which the picture was taken, has been uncovered by the research laboratory of the Eastman Kodak Company. After an hour's exposure the right-hand picture in the adjoining layout was completed by the employment of heat but absolutely minus light.

An electric current was thrown into the irons, which as is well known do not glow under such circumstances.

"Somehow this stunt suggests a way out of his predicament for the legendary 'blind man in a darkroom

looking for a black hat that isn't there,'" writes an Eastman man from Rochester. "In a totally dark room the bust was set up in front of the camera, faced by two electric irons, as shown in the first of the two accompanying illustrations. After an hour's illumination the other photograph resulted.

"Last year when we took a group picture in the dark in one second the room was actually flooded with infra-red rays from a battery of sixteen 1000-watt lights covered by a filter that permitted only the invisible infra-red rays to pass.

"In the case of the present photo-

graph there was no such source of infra-red rays; but, as you know, infra-red rays are associated with heat. Therefore, when the heat was turned on, infra-red was radiated, and an emulsion produced by the Kodak Research Laboratories to be very sensitive to the infra-red was able to record the rays.

"The practical usefulness of the new infra-red sensitive photographic materials at present is principally in the field of astronomy. The annual report (1931-2) of the Mount Wilson Observatory remarked that the Kodak Research Laboratories' efforts in producing greater sensitivity to the infra-red portions of the spectrum 'have made possible researches previously quite impractical.'

"One rather spectacular accomplishment of the new infra-red-sensitive materials is the discovery of a new spectrum band showing with reasonable certainty the presence of carbon dioxide on Venus and thus suggesting the possibility of life there."



At left are two unheated flatirons and an ordinarily illuminated statue. At right is the same combination with the sole illumination that proceeding from the electrically heated irons, which as is known do not glow under the current.





# *Cream o' th' Stills*



*W. J. Van Rossem, from near Dana Point, not far from San Diego, off the Southern California Coast, catches a gull in flight before the approaching storm*





# *Cream o' th' Stills*



*Eddie Cronenweth has caught a picture of Gwili Andre in "Secrets of the French Police" at RKO studio, as Director Sutherland with her discusses the coming shot*



*Here is a picture from faraway Manila—a trailer for first Filipino sound picture, made with Art Reeves equipment. Behind camera is Robert Miller, guest in whose honor company of Robert Musser (seated) has held a fiesta*

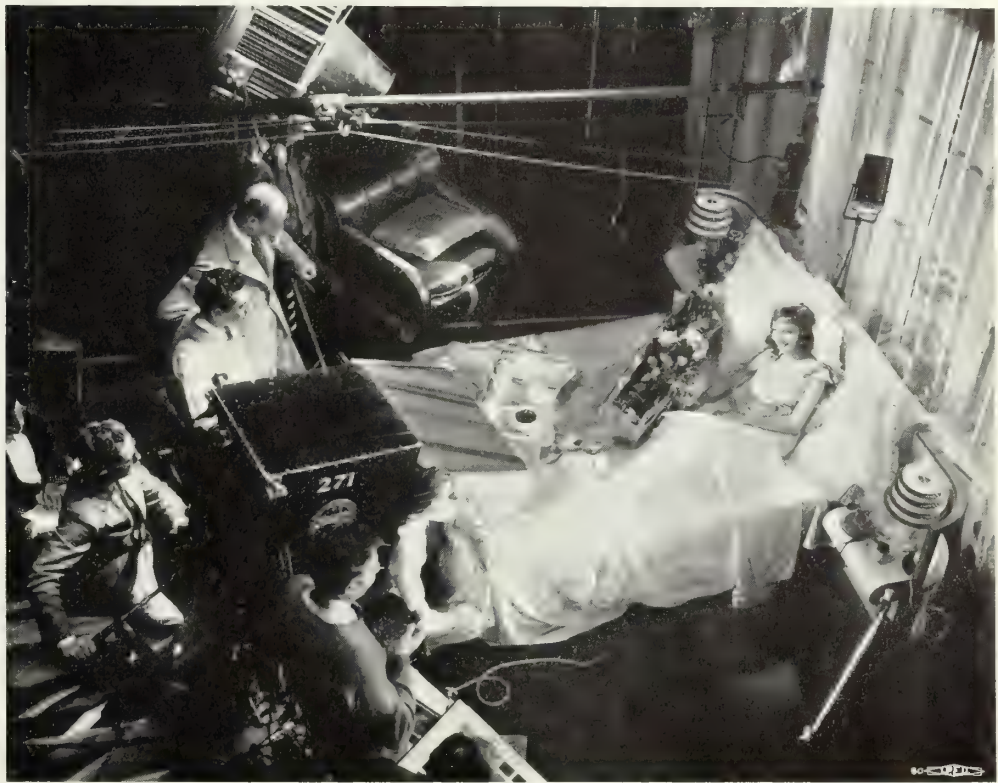




# *Cream o' th' Stills*



*Just a flash  
from Paramount's  
delightful  
"Tonight Is Ours."  
Mack Elliott  
is the man  
who is paid  
for taking  
pictures  
like this*



*Bert Longworth  
at First National  
is responsible  
for this  
striking  
camera study  
of Sheila Terry.  
The big camera  
will not  
include that  
protruding  
mike in its  
field*





# *Cream o' th' Stills*



*Like lower Broadway in New York at 3 o'clock in the morning, so here just preceding the hum of production we see a set for George Arliss' First National's "The King's Vacation"—and as photographed by Bert Longworth*



# Looking In on Just a Few New Ones

## TONIGHT IS OURS

First cameraman, Karl Struss; operative cameraman, George Clemens; assistants, Fleet Southcott, Daniel Fapp and George Bourne; stills, Mack Elliott; sound, M. M. Paggi; film editor, Ann Boucens.

**Y**OU who are susceptible to the charm of a beautifully told love story—or the charm of a woman so beautiful in mental as well as physical attributes she makes absurd a most generally accepted axiom—you remember, the one about the dumb-bell—stick a pin in “Tonight Is Ours,” just completed by Paramount.



Karl Struss

Here is a love story that hits the peak. More than that it is a “rave” from practically all viewpoints—story, staging, direction, photography, acting.

Professional cameramen and maybe many who are not even qualified amateurs in the handling of film will envy Karl Struss his opportunities when he lighted the features of Claudette Colbert—envy even as they admire the results he secured. The picture provides Miss Colbert with a part that any actress might envy, too—containing many heavy as well as light moments. It is an unusual combination of the gay and the grave—and the player goes to it with a zest that is most apparent. Plainly she thoroughly enjoys her role.

Fredric March has the opposite part, and likewise goes to it. By the way, why does this finished player hang on to this ham spelling of a perfectly good name? It might have been one thing when he was fighting for his place in the theatrical sun, but it is worse than petty now. It is cheap.

One of the chief distinctions attaching to this screen play by Edwin Justus Mayer from Noel Coward’s “The Queen Was in the Parlor” is that it carries illusion in spite of the handicap of a mythical kingdom.

Paul Cavanaugh as the prince with a “heart’s desire” of his own slated to marry a queen with a like incumbrance makes a likable character. Arthur Byron as the representative of the monarchy also well fills a principal part. Stuart Walker directs.

## LUCKY DEVILS

First cameraman, J. Roy Hunt; operative cameraman, Russell Metty; assistant, Willard Barth; stills, Alex Kahle; sound, Earl A. Wolcott; film editor, Jack Kitchin.

**W**HEN a stunt man writes a story and then has a part in the translation of that story to the screen certainly the resulting picture should possess a goodly measure of authenticity. RKO’s “Lucky Devils” does that. Bob Rose’s tale of the stunt man, with collaborative

## By GEORGE BLAISDELL

effort by Casey Robinson and the writing of the screen play by Agnes Christine Johnson and Ben Markson, is a convincing portrayal of the life of the man who dares and does at the risk of his own neck the spectacular things devised to enhance the reputation and box office value of the featured player who must be protected from risks.

There was a time when players and directors by their studios were forbidden to leave the ground in a plane. Today quite a number of these same persons operate their own machines.

The picture has more than authenticity. It has genuine thrills and considerable drama. Naturally the spectacle and the melodrama are in quantity as well as quality raised above the average production. The picture easily and naturally upsets the generally accepted rule that illusion fades when you delve into the medium in which the story is being portrayed. Here we always are making pictures, but nevertheless the production grips all the way.

Bill Boyd has the lead, with Dorothy Wilson playing opposite. A good sized cast help them out. Ralph Ince directs.

## THE BILLION DOLLAR SCANDAL

First cameraman, Charles Stumar; operative cameramen, Milt Krasner and Faxon Dean; assistants, Lloyd Ahern and Al Smalley; stills, Elwood Bredell; sound, P. G. Wisdom; film editor, Joe Kane.

**T**HERE’s a real story—a screen story—behind Paramount’s “The Billion Dollar Scandal” as it has been directed by Harry Joe Brown. It is an original by Gene Towne and Graham Baker, with dialogue by Willard Mack and Beatrice Banvard. The tale is starkly melodramatic. Its interest centers around Fingers, played by Robert Armstrong, introduced as a convict trusty just before his parole. It is a character of a mugg, a singular combination of plain crookedness and rugged honesty. There is



Charles Stumar

little love interest in the life of Fingers, the only approach to it being an understanding with Anna, convincingly played by Olga Baclanova.

There is an unusual screen cast in this story of high finance and public gouging, with James Gleason, Irving Pichel, Frank Morgan, Berton Churchill, Sidney Toler, Walter Walker, Hale Hamilton, Edmund Breese, Frank Albertson and Warren Haymer among the list.

The subject is splendidly staged. It

is well worth going a distance to see—at least, for those who are more strong on a straight screen yarn, gripping as well as entertaining, than they are for what the ten-year-old boys describe as “just mush.”

## SHE DONE HIM WRONG

First cameraman, Charles Lang; operative cameramen, Bob Pittack; assistant, Clifford Shipser; stills, Elwood Bredell; sound, Harry M. Lindgren. Film editor, Al Hall.

**L**IKE a shadow out of the past comes this grim reminder in Paramount’s “She Done Him Wrong” of McGurk’s Suicide Hall in New York’s lower Bowery. Unnamed though that once notorious saloon may



Charles Lang

be in the screen drama that features Mae West there hardly can be any doubt as to the identity of the resort which serves as the background for the entire story—if we accept a single sequence in which Lady Lou transforms a casual visit to Sing Sing into what takes on the aspect of old

home week. Visiting rules seemingly are suspended for the occasion, and as Lady Lou majestically swings down the cell corridor salutations and greetings spontaneously are passed to her from all the guests whose faces are jammed against their respective bars.

The period of this picturesque portrayal of the old Bowery is the more or less famed “gay nineties.” The atmosphere of that day and locale has been most intriguingly captured by Paramount’s art department and brought to life by Director Lowell Sherman.

To be sure the resort itself has lost nothing in picturesqueness in the re-vivification, if a measureable degree of trust may be placed in a more or less hazy recollection of its interior. There is no memory of galleries and stairways of the western dance hall type which in the drama lend so vividly to the color of the background.

But returning to thin air the ghosts of forty years ago and coming down to earth, Mae West is a most entertaining woman. Certainly that is true in what seems to be her chosen field of activity, the portrayal of a clever woman and a human and a humane one who by her cleverness is graduated from pavement to palace. By the way, “Pavement to Palace” is offered as a title for her next picture—and after seeing her first one, her first featured one, we may be sure there will be others.

Harvey Thew and John Bright have written a good story, one affording the lively heroine abundant opportunity



for slipping over her quips and wisecracks. Sherman has had the advantage of a skilled cast—Cary Grant, Noah Beery, David Landau, Owen Moore, Rafaela Ottiano, Gilbert Roland, Dewey Robinson, Rochelle Hudson, Tammany Young—as the famed Chuck Connors, in his day the “mayor of Chinatown,” and maybe he wasn’t; Tom Kennedy and Louise Beavers.

Just a word as to the saloon singing. A soloist does his stuff and then a chorus of waiters bear down with him. The subject is necessarily an old timer, and what they all do to the job in hand proves one of the hits of the show.

The subject is not one for a church on a Sunday or any other evening, but for those beyond the age of childhood who may be interested in a cross-section of urban life it will make a mighty entertaining hour and a quarter. And to those adult males who as yet have not looked upon the glamorous Mae either in the flesh or in the shadow—well, it may be said that experience surely is something.

#### MADAME BUTTERFLY

First cameraman, David Abel; operative cameraman, Ernest Laszlo; assistant, James King; stills, William E. Thomas; sound, Harry M. Lindgren; film editor, Jane Loring.

AS was remarked in the December issue of this magazine there is a new Sylvia Sidney in Schulberg-Paramount’s “Madame Butterfly.” It is far and away the best of the various screen adaptations and presentations of this combination of John Luther Long’s story and David Belasco’s play. The screen play in this instance is by Josephine Lovett and Joseph Moncure March. It will possess high entertainment qualities for that large number of picture followers whose perspective still is

undimmed by reason of refraining from satiation—who see never more than two pictures or possibly one picture each week.

Miss Sidney has adapted herself to the part, done so in unusual degree. She establishes the illusion of the Japanese maid and throughout the course of the story maintains it. In this effort she is materially aided by the backgrounds, the atmosphere, both near and remote. They do much to enhance credibility. For this of course the boquets must go to the art department in conjunction with Michio Ito, technical adviser.

Cary Grant is the lieutenant who, according to Japanese rites, marries the native girl. He will be liked for his work. Charles Ruggles is the fellow-officer of the bridegroom, and does much to lighten the necessarily heavy tale. Three other principals whose contribution stands out are Edmund

Breese, Helen Jerome Eddy and Irving Pichel.

Marion Gering directs. Use is made of the music in Puccini’s opera. Incidental music is by W. Franke Harling.

#### HELLO, EVERYBODY

First cameraman, Gilbert Warrenton; operative cameraman, J. Harry Hallenberger; assistant, Arthur Lane; stills, Earl Crowley; sound, J. A. Goodrich; film editor, James Smith.

THERE’s a lot more in Paramount’s “Hello, Everybody” than merely a radio crooner even though she is big enough for two crooners. Kate Smith is something more than just an addle pated whiner.



Gilbert Warrenton

ality. She has poise, dramatic ability, the indefinable quality of sensing beyond any power of a director to instruct just the indicated thing to do in a given situation.

There may be those looking upon the figure or hearing the voice of the singer for the first time who will feel too much footage is given to her songs. That hardly will be the case with her legion of admirers.

Paramount has put behind Miss Smith a good rural story and surrounded her with a cast of competent players. No attempt is made to show the heroine motivated by or possessing any other than filial love—to mother and family. The love interest is carried by Randolph Scott and Sally Blane, the latter in the role of a sister of the heroine.

There are other well-known players—Charley Grapewin and Fern Emmett, Julia Swayne Gordon, Frank

The foregoing is for those who are prejudiced and know the lady not by either sound or sight.

The big girl is an artist, none the less so simply because he who may think so is a bit hazy just how to explain his belief that such is the fact. Fundamentally, nevertheless, she has a pleasing personality. She has poise, dramatic ability, the indefinable quality of sensing beyond any power of a director to instruct just the indicated thing to do in a given situation.

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#### Motion Picture Society of India Is Formed in Bombay

THE Motion Picture Society of India has been formed in Bombay with a view to promote a larger interest in the entire technique of motion pictures, both silent and sound. This industry as yet has not received any great attention in India.

The society aims to remedy the present disorganized condition of the film business in that country. The forming of the new body met with good response from those engaged in the trade in India. On the executive committee are K. H. Vakil, K. S. Hirlekar, secretary, and M. B. Billimoria. The offices of the society are in the Taraporevala Building, Queens Road, Bombay.

Darien, Wade Boteler, Frank McGlynn and Edwards Davis. The latter sustained the part of the orator of the water power company’s big radio smash. What he did with the role is just what might be expected of the man who is the greatest English speaking orator in or around the motion picture business—or who has been in or around it since it was a business, including Gus Thomas. And that’s saying something.

William A. Seiter directed from an adaptation by Dorothy Yost and Lawrence Hazard of a story by Fannie Hurst.

#### COMRADESHIP

STRANGE picture is this directed by G. W. Pabst from Ernst Vajda’s adaptation of Karl Otten’s story. “Comradeship” is a tale of the Franco-German border, with dialogue more or less evenly divided between French and German. It is not a tale of racial or national hatreds. To the contrary it is one of national cooperation, of assistance by the Germans to the French when fellow-miners have become victims of deadly gas.

The word propaganda has been employed in describing the story, but after seeing the picture the word seems tawdry and cheap. It is a human story, a heroic one. Its theme approaches in magnitude that well-known one beginning “Greater love hath no man.” Conceivably the production, made on a really notable scale and with rare skill and consummate directing judgment, will accomplish more toward allaying the ancient feud between the two nations than all the mere word of mouth that may be uttered by countless and oftentimes insincere pacifistic propagandists.

#### Packed with Human Interest

It is not a love story in the ordinary sense—in the sense of the love of a man for a maid, or what probably is the stronger, the reverse. When word comes to German miners just finishing their shift that their French confreres in the same mine, but on the other side of the border, are endangered by fire and gas, they volunteer to go to their assistance—do that in spite of the fact that the day before the application of German miners for employment on the French side has been brusquely turned down.

Every reel is packed with human interest—made intelligible to additional millions by the employment of running titles in English. There’s a German miner and his wife, three German miners, a French miner and his friend and the latter’s sister, and an old French miner and his grandson. And behind all these are hundreds of neighbors on both sides of the border, police and miners and the members of families.

Possibly half of the footage is devoted to the vast, ramifying galleries of the great mine. One of the spectacular phases of the picture rests in the series of gas explosions. The ripping and tearing sound of these reverberate through the workings, with



Dave Abel



the following crashing of the timbered roofs. Rescuers work in water nearly to their necks.

Dramatically one of the more powerful of the sequences is that wherein the grandfather surreptitiously enters the mine following the disaster searching for the boy who that day has entered the mine for the first time. And that's just one.

The picture will have added interest for Americans in that the scenarist was for a long time in American studios and brought to his story all he had acquired of American technique. F. A. Wagner is credited with the photography, which in the English versions of course is dimmed in brilliance by reason of the superimposed titles. The subject was shown for two weeks at the Hollywood Filmarte.

#### NO MAN OF HER OWN

First cameraman, Leo Tovar; operative cameraman, Fred Mayer; assistant, Neal Beckner; stills, Earl Crowley; sound, Earl S. Hayman; film editor, Otho Lovering.

**C**LARK GABLE moved over from his home lot to do a bit of the unheroic for Paramount. That is, most of his part was in the category named. The finish, though, was different. It was more or less wholesome, and in the main will be quite satisfying to those feminine followers who insist their screen idols must be in the parts allotted them like Caesar's wife.

Gable's role is that of a big time gambler, one whose only use for women or whose regard for them is measured by the amount of assistance they may give him in his card swindling operations.

Carole Lombard is the western small town girl who falls under the spell of the insinuatingly pushful Lothario from the east. It just happens Connie Randall is in that mood not unknown to lonesome as well as impulsive humans when advances from the opposite sex stand about ninety-nine chances in a hundred of being accepted. So it is in the instance under review.

It is a whirlwind courtship, really entertaining in the course of its working out. So, too, there is much in the way of entertainment in the early married life. There is drama, too, as the associates of the gambler unsuccessfully endeavor to capitalize the attractiveness of the bride and the bride digs into the situation in her successful endeavor to discover what it is all about, to learn the source of the enormous meal ticket.

Dorothy Mackail is shown as one of the accessories of the gambler. Others among the principals are Grant Mitchell, George Barbier, Elizabeth Patterson, J. Farrell MacDonald and Frank McGlynn.

Wesley Ruggles directs from Maurice Watkins and Milton H. Gropper's adaptation of the story by Edmund Goulding and Benjamin Glazer.

#### TERROR TRAIL

First cameraman, Dan Clark; operative cameraman, Norman Devol; assistants, Lloyd Ward, Ed Jones and John Eagan; stills, Ray Jones and Harry Osborne; sound, Gilbert Kurland; film editor, Phil Cahn.

**P**OSSIBLY in one of the last pictures Tom Mix will make is Universal's "Terror Trail," a good western adapted by Jack Cunningham from Grant Taylor's story. The suggestion that it is one of the last



Dan Clark

of Mix's pictures is not uttered on authority. It is known, however, the player is planning an around-the-world tour that will require a year. It is not denied this idol of the American boy also is the possessor of a goodly fortune, and that without any particular effort or long search for the

employment he can make a most profitable connection with a circus when he chooses. So it would seem to be against the probabilities he will return to the screen.

There is a good cast, among the members of which are Raymond Hatton, Naomi Judge and Francis McDonald. The backgrounds have been

## THE MOTOR-DRIVEN EYEMO wins its spurs



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happily selected and add materially to the pictorial quality.

Armand Schaefer directs a fast moving story, one that will lift the average western fan out of himself and at times on to the edge of his seat.

### LUXURY LINER

First cameraman, Victor Milner; operative cameraman, William Mellor; assistant, Guy Roe; stills, William E. Thomas; sound, M. M. Paggi; film editor, Ed Warren.

**M**ARRIED at the conclusion by the unaccountable yielding of curtain honors to a player whose part or performance means nothing to the very absorbing story being unfolded, and even in spite of that inexplicable example of dramatic ineptitude, Paramount's "Luxury Liner" is at times gripping and always highly entertaining—with the exception of those moments when Alice White in her part of the sap is on the screen.



Victor Milner

The tale is in restricted locale. Where "Grand Hotel" was laid in a hotel and nowhere else so it is with the newcomer. Never do we leave this west-bound Atlantic ship. The atmosphere of shipboard is established and maintained in unusual degree.

The centre of the story is a ship's doctor and a nurse. Playing the latter is Zita Johann, with George Brent in the part of the doctor who obtains the assignment in order to break up an elopement planned by his wife and her wealthy boy friend. The first named gets a real opportunity to show her quality as an actress. She has remarkable appeal as well as and partly because of unusual restraint. This latter quality is enhanced by a wistfulness that spells mystery and is most intriguing to the spectator. Brent gives an excellent performance. The mental picture of the nurse and the doctor will live in the memory of the picturegoer for an unusually long time.

Vivienne Osborn is the wife of the doctor who blows up and walks out, while Frank Morgan is the philandering capitalist who seeks to capitalize the domestic jam. C. Aubrey Smith

as the broken industrialist who turns steerable benefactor stands out.

Lothar Mendes has directed this

Schulberg production, which is an adaptation by Gene Markey of Gina Kaus' novel.

## When Seen Through Feminine Eyes

By HELEN BOYCE

### STATE FAIR

First cameraman, Hal Mohr; operative cameramen, William Skall and Irving Rosenberg; assistants, Milton Gold and Robert Surtees; stills, Clifton Maupin; sound, A. L. Von Kirbach; film editor, Robert Bischoff.

**T**HOSE who read Philip Stong's popular novel "State Fair" will probably shrug, as did this reviewer, at the question of transforming it into an interesting photoplay. But—when you see this almost all



Hal Mohr

star cast breathe life into these characters you'll agree that it is one of the most delightfully human things you have seen in many a day.

It's a story of the soil and an honest-to-goodness American family the members of which live close to it; their ambitions, their weaknesses and their loves. Will Rogers as Abel Frake has never had a part that fitted him so well. He has so completely submerged himself that you entirely forget Will Rogers and simply suffer with Abel Frake when Blue Boy, his pampered highbrow Berkshire hog, goes temperamental and "lays down" on him the day of the fair.

You are equally pleased when this beau brummel hog arises to the occasion and carries off the blue ribbon. You will chuckle as Abel slyly pours his idea of flavor into Melissa's prize winning mincemeat and you will think Louise Dresser as Melissa Frake a real person.

Janet Gaynor is Margy, the daughter just pining to "burst forth and raise hell" according to her own statement. Norman Foster is Wayne, the son, a likable small town lad. Then there is Sally Eilers as the trapeze artist who takes him in tow at the fair. Frank Craven is the pessimistic storekeeper.

The philosophy smacks somewhat of Voltaire; how we set our hearts on something as *the* thing we want most, which upon accomplishment merely becomes an incident like the passing fair.

However, Margy doesn't seem to accept the philosophy and one is glad she decides not to be too sensible as she races out into the rain to meet her destiny in the person of Pat Gilbert. The role of this young newspaper man who has lived hard and fast is enacted by Lew Ayres. Henry King directs from the screen play by Paul Green and Sonya Levien.

### BLONDIE JOHNSON

First cameraman, Tony Gaudio; operative cameraman, Al Green; stills, Mac Julian; sound, David Forrest and Oliver Garretson; film editor, George Marks.

**W**HEN Earl Baldwin wrote the screen play "Blondie Johnson" it was undoubtedly with the thought in mind that with bootlegging on the wane the gangster is now turning his hand at cashing in on



Tony Gaudio

legitimate business. However, it is inexplicable why the glamour of a parasite so pedicular as a gangster should be so delusively magnified. It must be admitted that the plot is fascinating; a fact to be regretted when one contemplates the conclusions youngsters may draw from it.

Joan Blondell is the jobless girl who becomes the noted "gangstress" when her mother dies for lack of food and proper care. Chester Morris is Curly, her pal. Allen Jenkins as Louis provides not a little humor when a weeping wife he has never seen throws her arms around him in court as part of the plan to "spring" him. A racket recently worked locally appears with the prop as a diamond

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bracelet instead of the expensive car. In fact it's full of rackets except for one clinch on which the curtain might be called down for ten seconds or so.

The reviewer has seen no gangster picture portrayed by a more capable cast nor under better direction than Ray Enright has bestowed upon this Warner Brothers' production. They all richly deserved a vehicle more worthy of their mental faculties and histrionic ability.

### GRAND SLAM

First cameraman, Sid Hicox; operative cameraman, Thomas Branigan; assistant, Wesley Anderson; stills, George Baxter and Homer Van Pelt; sound, Robert Lee; film editor, Jack Killifer.

**W**HETHER you play bridge according to Culbertson, Simms, Vanderbilt or Work you'll find they're all "hokey" when you see Paul Lukas play the Stanislawsky system in Warner Brothers' "Grand Slam."



Sid Hicox

Bridge fans will like it even though they know it jest ain't possible and non-bridge players will be able emphatically to voice the proper "I told you so" when Paul Lukas as Stanislawsky contemptuously proves that it is child's play and a game for morons.

He is a waiter in a Russian restaurant and his spare time is spent in trying to write a book. However, Marcia, the check room girl, decides he will make a good husband. Loretta Young is the charming Marcia who marries him and then in true wifely manner inveigles him into bridge.

Helen Vinson is the enticing Lola who commands him to leave off waiting one evening and fill in at her party. He starts the ball rolling by bidding a grand slam in spades. Only a bridge player can understand the emotions of the other players. Frank McHugh is the ghost writer who hears about it, and overnight the waiter becomes the exponent of the great Stanislawsky system—guaranteed to insure an amicable game with any husband and wife.

Fame, fortune and fun follow—until Marcia darling fails to play the right card. However, it all works out in a most satisfactory manner.

The screen play by David Boehm and Erwin Gelsey was based on the novel by B. Russell Herts. William Dieterle directed.

### SECOND HAND WIFE

First cameraman, Charles Clarke; operative cameraman, Joe McDonald; assistants, H. C. Smith and Robert Mack; stills, Ray Nolan; sound, A. L. Von Kirbach; film editor, Alex Troffey.

**N**EITHER the title nor the story were changed in Fox's presentation of "Second Hand Wife." Here is a case where Hamilton McFadden deserves dual honors for the

writing of the screen adaptation and the direction of the original story by Kathleen Norris. The screen play is as entertaining as the book, which is saying a great deal.



Charles G. Clarke

The story is triangular in construction with a decidedly novel twist. Sandra Trumbull is the stenographer in love with her boss, Carter Cavendish. These two characters don't lose a thing in the able hands of Sally Eilers and Ralph Bellamy, nor is Helen Vinson less convincing in her role of the beautiful and selfish Mrs. Cavendish.

Little Karol Kay as Patsy, the daughter of the estranged couple, is an extraordinary violinist and a capable little actress. Sandra gets her man only to give him up when she finds the welfare of Patsy is threatened through the selfishness of her mother.

However, don't go away, folks; in just a few more feet of film she gets him back and everyone, except possibly

Mrs. Cavendish the first, is happy in the fadeout.

### THE PAST OF MARY HOLMES

First cameraman, Charles Rosher; operative cameraman, Frank Redman; assistant, Cecil Cooney; stills, John Miehle; sound, Hugh McDowell; film editor, Charles Kimball.

**W**HILE the title is "The Past of Mary Holmes" the only thing that's known about that past is that she used to be an opera singer who lost her voice when her illegitimate son was born. It is really the screen version written by Marion Dix and Edward H. Doherty of Rex Beach's "The Goose Woman," which is a more appropriate title.



Charles Rosher

Unless one has a weakness for unkempt appearance and filthy surroundings Mary's present is far from interesting. Helen MacKellar is the once famous singer who now lives in these squalid surroundings with her geese and pigs. Eric Linden as Geoffrey Holmes, the son, gives a convincing performance.

# 7

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The reviewer did not see Louise Dresser in the same story made some time ago, but understands she dominated the picture, which was built around her. This is not the case in the RKO release, as Miss MacKellar does not display the spark that would make the Goose Woman the really interesting character she should have been. Even her tears are unconvincing.

Jean Arthur is young Holmes' fiancée and handles the part well. Skeets Gallagher is at home as the "wisecracking" reporter. Harlan Thompson and Slavko Vorkapich directed.

### LADIES THEY TALK ABOUT

First cameraman, John Seitz; operative cameraman, Harry Davis; assistant, Vernon Larson; stills, Homer Van Pelt; sound, C. S. Althouse. Film editor, William T. Phalen.

**D**OROTHY MACKEYE and Carlton Miles have written a mighty entertaining play in "Ladies They Talk About." Despite the fact that the locale is largely the women's ward at San Quentin the philosophy is happy and there are many chuckles. Brown Holmes, Wm. McGrath and Sidney Sutherland wrote the screen adaptation; Henry Bretherton and William Keightley directed. It's a Warner First National.



John Seitz

Barbara Stanwyck makes a very realistic Nan, the daughter of a narrow-minded small town minister. However, Nan becomes so broad-minded she has to be sent to prison to narrow her scope. Preston S. Foster as the evangelist, radio and otherwise, who tries to reform her, gives a good performance and the character is well drawn. And speaking of characters, Maude Eburne should not be forgotten. She portrays Aunt Maggie who used to run a "beauty parlor"—the kind that earned her a ten year lease on the rocking chair at San Quentin, but did not cause her to lose her sense of humor. Then there is Cecil Cunningham as Mrs. Arlington, who experiences trouble with the servant problem even in prison. She finds she must pay her laundry bill here to get her draw-ahs back. Lillian Rath, who pals up with Nan, is most likable. In fact the entire cast is excellent and those who like the happy ending will not be disappointed.

### NAGANA

First cameraman, George Robinson; operative cameraman, Richard Fryer; assistant, Paul Hill; stills, Adolph Schafer; sound, Gilbert Kurland; film editor, Robert Carlisle.

**S**HOULD you have any idea that "Nagana" is the name of an Egyptian vamp you'll find you're all wrong, but Lester Cohen's story

is so vivid and so colorful that you'll never miss the vamp. Nor did the



George Robinson

screen play lose anything in the shaping by Dale Van Every and Don Ryan.

The average picturegoer may be unfamiliar with the cast in this Universal production, but that fact need not prove disappointing, for here is a case where each member entirely fits the role. Ernst L. Frank directs. The translation of Nagana is sleeping sickness. The locale is Africa. Dr. Walter Radnor and Dr. Kabayochi, against great odds, are fighting this dread disease. Melvyn Douglas gives a most excellent portrayal of Dr. Walter Radnor and the dramatic ability of M. Morita as Dr. Kabayochi reminds us strongly of that of his famous countryman, Sessue Hayakawa. The Countess Sandra, who follows Dr. Radnor to Africa, is Tala Birell. Everett Brown is Nogu, son of the native king. This big black is an actor and speaks unusually good English.

There are native witch dances, wild jungle scenes and plenty of wild animals. It is possible that members of the S.P.C.A. may object to some of the animal scenes, as they are a bit strenuous.

Men undoubtedly will like this picture. The feminine fans who don't demand society dramas, but like a really stirring screen play also will register enthusiasm, and it contains no elements that would be undesirable for the younger fans.

### THE VARMLANDERS

By Fred Westerberg

**T**HE Swedish film Varmlanders (pronounced Vairmlanders), shown recently in the Filmarte, in Hollywood, is the latest talking picture version of an old familiar stage play long cherished by the Swedes. It is a tale of Swedish life as it was lived a hundred years or so ago and is similar in its sentimental appeal to those sturdy favorites "Old Heidelberg" and "Uncle Tom's Cabin."

The story is a simple one. A landowner faced with the prospect of having to give up a large part of his estate due to hard times seeks to arrange a profitable marriage between his son Erik and the daughter of a rich neighbor. Erik, however, loves Anna, a poor crofter's daughter, which causes no end of trouble for everybody concerned.

The lovers fortunately are not torn apart forever and ever as in "Old Heidelberg," so a good deal of wear and tear on the tearducts is happily averted.

The charm of "The Varmlanders" is due in great measure to the glamor of its background; the benign effulgence, for example, of a sacred

hymn as it wells up in the age-old parish church; the whirling rhythm of a midsummer dance in the fields; lusty student songs, gay lover's ballads and silver birches swaying in the wind.

The cinematography by Ake (pronounced Oak-eh) Dohlquist and Martin Bodin is sparkling in its tonal quality and in its decorativeness. At times the arrangement and juxtaposition of areas of light and shade afford positive esthetic pleasure.

In some of the musical sequences, however, there is a lack of variety and effectiveness in the cinematographic approach. At these times the camera contributes nothing to the symphony. It merely records.

Taken as a whole the performance is marked by an evident sincerity of purpose, to portray a mode of existence which in spite of its rigors contained elements of rare beauty and grace. The picture succeeds not because of the plot but in spite of it.

### Contest for Leica Awards

Will Close on February 20

**T**HE first annual Leica photographic salon will close February 20 or to contesting prints forwarded under postmark up to and including that date. The company offers a total of \$725 in Leica merchandise certificates, to be redeemed by the winning Leica camera owner for equipment of his own choice. The prizes from first to fifth range in value from \$250 to \$50, with ten additional of \$10 each. Subjects intended for competition should be forwarded to Committee on Entries Leica Photographic Salon-Lugene, Inc., 600 Madison Avenue, New York.

Successful prints are to be exhibited at headquarters of camera clubs. Contestants may be residents of the United States, Canada or Mexico. The entry should include the model and serial number of the Leica used. The prints must be enlargements from six to twelve inches in length, and a contact print must accompany each Leica enlargement. Contestants are not limited in number, except by a request they "be reasonable." Winning photographs become the property of Lugene Inc., and the latter reserves the right to call for the negative for publication purposes. For return of prints unsuccessful prints postage must be included.

The awards judges are Willard D. Morgan of E. Leitz Inc., Dr. M. Agha and Margaret Bourke-White.

### New Combination Printer

A new combination printer is announced by E. Leitz, Inc., New York. It is unique in that it will accommodate all miniature camera sizes of negatives. The printer comes as a complete unit, incorporating its own illumination, which is controlled by means of an adjustable rheostat, spring-button light control, fixed ruby light for viewing the position of the negative in relation to the sensitive material, and various other features.



# Letters Come from Faraway Points

Roy Clark in Arctic Circle Tells of Perils on Land and Ice as Paul Perry Reaches Ceylon After Interesting Voyage

TWO letters from faraway points came to Charles Outafocus Boyle during January. They were from fellow-International Photographers. One was from the northwestern point of Alaska, well within the Arctic Circle. It was written December 7 by Roy Clark, on location with MGM's "Eskimo."

The other is from Paul Perry, mailed in Colombo November 27 just after he had landed from the steamship Ginyo Maru with Guy Wilky, brother Photographer, both engaged in a motion picture expedition. But here are the letters:

## By ROY CLARK

Well, here I am knee deep in snow and ice in the Arctic. What price glory! It's cold as hell up here, old boy, so you should be and I guess are pretty proud of Hollywood.

We have about a month and a half yet to go, which means we should be back early in February. It has been hard as the devil, but nevertheless very interesting also. The director, W. S. Van Dyke, is a prince, one of the finest and fairest fellows with whom it has ever been my luck to work. And he knows his business backward.

As to thrills I have had my share so far. I am not even asking or hoping for any more. One of these occasions was when in a skinboat I was trying to photograph a flock of walrus some of the herd were doing their individual utmost to get into the boat.

Another time I was photographing a reindeer herd stampeding into the camera. No fooling, they did just what the script called for, only they came up to within three feet of the camera before splitting. For all of eight minutes I was kneedeep in reindeer. That was once I was too frightened to stop cranking. I had no motor. All I could do was crank and hope for the best.

We will have been away from Hollywood for nine or ten months,



Roy Clark

and between you and me that is a long time to be away from home in any country—and none the shorter by reason of being in Alaska. From what we have seen here and also heard from the studio "Eskimo" should be nothing less than a box office sensation.

## By PAUL PERRY

We will arrive in Colombo this evening after a hell of a storm prevailing all the way from Singapore, where we left a week ago today. We are two days late on the schedule of this ship, which will make us six days behind the itinerary as planned before leaving Los Angeles.

When we were in Kobe it was raining so hard the captain would not unload because he was afraid of damaging the cargo. He waited until the next day, which made us one day late on our connection in Hongkong, with the result we missed the ship we were scheduled to take.

When we got into Yokohama we secured a car and drove to Tokio, but we had so little time we did not see

much. Back in Yokohama we took in the town for a few hours. Everything here surely is cheap.

There are 4½ yen to a dollar and 100 sen to a yen. This is merely preliminary to remarking to all you home brewers that beer is 20 sen a bottle, which is equivalent to a shade over 4 cents. You figure it out if you don't like the price.

Chesterfields are about 9 cents a package and cocktails about 12½ cents. In Kobe we bought some Johnny Walker at 88 cents a bottle. Gordon gin is 66 cents. I bought two silk shirts, not heavy material but pretty good, for 44 cents each. The heavy ones are \$1.12.

Who won the Senatorial race in California and what was the outcome of the vote on the Wright act? Will you also send me the scores of all U. S. C. games? I have become quite an expert at pingpong. It's really a pretty fast game after you play a while. The first mate of the ship is champion of Japan, and boy, is he good? He even beats me!

When we got to Shanghai we were in time for the derby. All the banks and stores were closed. We could not miss that, and were not disappointed. It surely was great. There is a fine club. There are three tracks, one within the other, and many buildings. The animals are small, between our race horses and large ponies. Twenty to forty are entered in a race, and it makes a real sight.

That evening Guy and I for two hours rode all over town in a couple of jinrikishas. The boys asked us in Mex the equivalent of 10 cents American gold. When I gave the boy a dollar Mex or 50 cents USA he bowed to me for a hundred yards.

We send our best, with a merry Christmas and a happy new year. By the way, we make better beer at



Paul Perry



Guy Wilky



home than you can get over here. That ought to mean something, to you.

By GUY WILKY

Somewhere in Ceylon,  
December 13, 1932.

Editor International Photographer:

Well, the first International got here today, and it surely was good to get all the news. It is one of the finest issues (November) that I've ever seen. Anyway, it appeals to me that

way, having been away from Hollywood all this time. I was mighty sorry to hear of Bob Kurrle's passing, though.

Paul and I are having a grand experience. I am shooting lots of pictures, but we have no way of finishing them as yet, no enlarger to handle Leicas. But anyway I will have lots of material for pictures when I get back to Hollywood. Give my best wishes to the gang and the best of good luck to you.

Pacific Coast orchestras and soloists, and electrical transcriptions for broadcasting purposes.

### Leica Issues Bulletin

Beginning with December of last year E. Leitz, Inc., of New York will issue monthly a bulletin entitled Leica Photography. The first issue is of eight 8½ by 11-inch pages and is profusely illustrated. The contents are devoted to matters that will interest users of the camera.

## Anniversary of the Stork's Visit

FEB. 2—W. Wallace Kelley, Bert Longworth, John McBurnie, J. Fred Westerberg.

3—Carl Meister.

4—Charles W. Riley.

5—Frank B. Heisler, A. E. Williams

7—Cecil Love.

8—Milton M. Moore, Arthur E. Pierson.

9—Robert De Grasse, Albert DeSart

10—Leonard M. Poole.

11—Ross G. Fisher, Harry A. Gant, Harry Neumann.

12—Joseph Biroc, Lloyd Combs, Peter I. Denie, Arthur Todd.

14—Harold W. Graham.

15—Al Myers.

16—Frank Buchholz, Howard C. Gibbs, Sol Halprin.

17—T. F. Jackson, Donald B. Keyes, Milton Krassner, Edwin L. Pyle.

18—Bert Eason.

20—Harvey A. Gould, Donald E. Sargent.

21—William H. Clothier.

22—George Diskant, George Lyng, George Richter.

23—James N. Giridlian, Fleet Southcott.

24—Matthew J. Klucznik.

25—William E. Fildew, Joseph R. Johnson, J. Z. List.

26—William Wheeler.

27—Harry Flenner, Homer Van Pelt.

28—William C. King.

### Porter Named by RCA-Victor As Head of West Coast Plant

THE appointment is announced of G. Harold Porter as vice-president in charge of RCA-Victor's east coast activities, with offices at Hollywood. He formerly was vice-president in charge of the Pacific Coast activities of Radio Corporation of America.

Porter's new duties will include supervision of RCA-Victor's operations in connection with Photophone sound-on-film recording and projection equipment, sound-on-disc recording for motion pictures, production of Victor records of song hits from motion pictures and of outstanding



Since the first of these two pictures was taken its very young subject has trebled her age. Josephine Francis Harris, daughter of Mr. and Mrs. Joe Harris, instead of four months old is now one full year. It may not be amiss to reprint at this time the caption which accompanied the first picture in the issue of last June: "Joe Harris sends us this photo of four-month-old Josephine and her mother. Plainly the little one is more or less puzzled. She is deeply impressed by the realization that as she appears to the camera so will she appear to the eyes of all her candid friends—and incidentally to herself—all through her life as they and she scan the Family Album. It is a fact these larger affairs of infancy at the moment really are serious."

The serious phase has passed, as you will note, and the lower photograph taken by her father will serve so to convince her candid friends when later they scan the Family Album.



Howard E. Hurd Junior

Charles Hurd

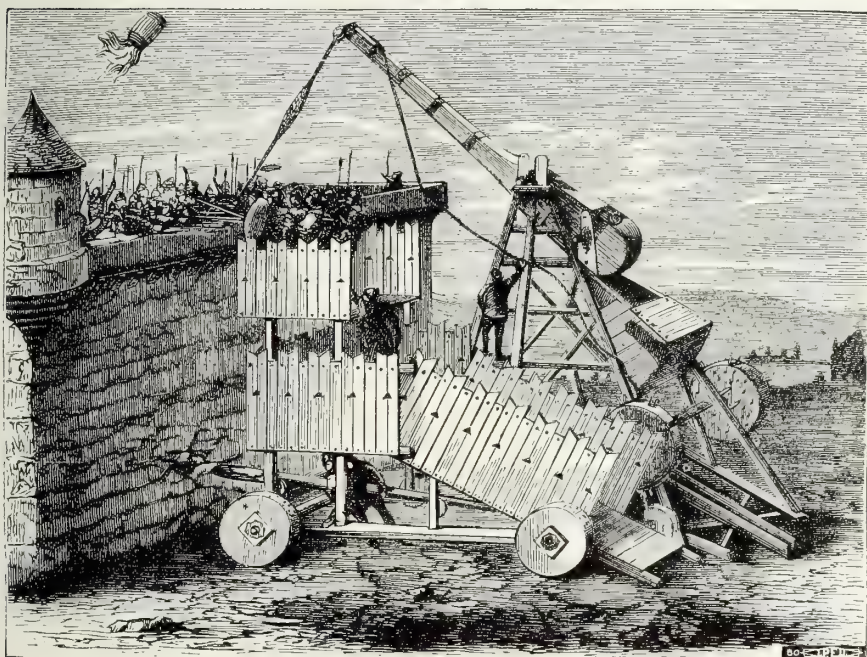
That blithe International Photographer Paul Ivano has caught the two sons of Howard E. Hurd, business representative of the cameramen, in a gay mood—or maybe the hilarity of the moment is but a reflection of the spirit of the ardent Leicaphotographer facing them.



# Out of Focus



## New Camera Crane



*This little gem was reduced from an enlargement, made by Jackson Rose, the man responsible for these screwy pictures. Clouds were separated by permission of the filter owner.*

This dynamic device will soon be on the market to be used for follow shots. Up and down, in and out and all around, it can be used on location as well as in the studio, as long as the wheels hold out. Only fourteen men are needed to operate the crane. Photographic staff not included.

So many unusual shots are required nowadays to take up the time that this crane will meet with instant success. As you will notice a board fence has been built around it to keep parts from falling on the ground. This alone saves time in case anything drops, as it does not fall all the way down.

When not in use as a camera crane it can be used for wire gags and by turning upside down can be used to make shots of the ceiling.

There are no patents on this and you can build one in your own back yard, if you have one.

### DO YOU KNOW

That Faxon Dean was stationed at Fort Logan, Colo., at the beginning of the war? Does he know Denver? That Nick Barrows was in charge of the Lab on Lasky's first production, "The Squaw Man"?

That Ray Flinsky answers to R. Aloysius?

That Joe Dubray was with Pathe, in France, for eight years?

That Farciot Edouart was in charge of the photographic unit of the seventy-eighth Division, Signal Corps?

That Perry Evans was with Than-houser in 1910 and was one of the first air mail pilots on the coast?

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That Sam Landers was with D. W. Griffith for eight years?

That Roy Musgrave's first name is Ervin?

That Mack Stengler has a complete Mitchell outfit in A1 shape for rent?

That I get nothing for the above?

That William Fraker's middle moniker is Ashman?

That Paul Ivano's last name has thirteen letters in it. You ask him what it is. I can't even spell it.

That Rob Wagner's Script printed an article of mine recently along with Jim Tully, Rupert Hughes and some other good writers?

That I haven't seen Lucien "Push-em-up" Andriot for a long time?

That this is the end of this department for this issue?

### TIME MARCHES ON

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to the actors while scene is being shot. **TIME MARCHES ON.**

**HOLLYWOOD, Cal., 1929.** Manufacturers announce they have new camera that can be used without any covering around it. **TIME MARCHES ON.**

**GRIFFITH PARK** every now and then. Assistant Director orders entire company to meet him in Griffith Park. This park covers many square miles and has a dozen or more entrances to it. Company scattered all over park. **TIME MARCHES ON.**

**LOS ANGELES, Cal.** Assistant cameraman pawns watch on Main street. **TIME** passes ON.

**HOLLYWOOD, Cal., 1932.** Cameramen take 10 per cent cut in wages for one year. **TIME MARCHES ON.**

#### Why He Advertises

Alvin Wyckoff runs a box ad in every issue of this magazine, with just his name in it. Yes? He pays for it, but this is the story. When he was presented with his life membership he said that he would continue to pay his dues. The only way he could figure out how to do it was to run the ad. That's the story.

#### Irish Joke

Whalen—The Doctor said I was anemic.

Kirkpatrick—What kind of a Mick?

#### Knowledge Pays

An assistant was told that he should

learn about optics and factors pertaining to the various filters and that books on both were available at the library. He came back with a book about Oliver Optic and one about make-up by Factor.

#### Two Kinds

Some one wanted to know what a wandering cameraman was. He had heard about one over the radio.

I would say he was a cameraman that went to some foreign country and while wandering around he was "wandering" if he would get paid when he got home!—If he got home.

#### CHAPTER TWO

After the clerk had taken the swell looking gal to the theater to see some Sennett Shorts she turned to him and said:

"I guess you didn't understand me. I wanted to see some shorts, you know—shorts.

"The evening is not over," replied the clerk, and they walked down the street arm in hands.

No more to come.

#### Pink Elephants?

Paul Perry writes from Ceylon that he has seen better and funnier animals in Hollywood than he has over there, so far. That he has to wear rubber boots on account of the leeches being so bad. When they bother me I go out the back door.

#### No Nook in the North

Roy Clark writes from so far North that they have no name for it. At least there was no address in his letter. See picture in this issue showing what to expect from the well dressed Eskimo in the future.

#### Safety First

Elmer Dyer was waiting for a ship to be serviced before taking off to shoot some air shots. One of the aviators pulled the safety ring off his parachute and a lot of old rags fell out. It was a dummy chute that had been mixed up with the practical ones.

Yes! Elmer has his own, very personal chute now and this is another reason for the "Flights Extra."

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I have the best assistants;  
I have the best electricians;  
I have the best grips;  
I have the best property men;  
I am not mad at anyone, and I hope no one is mad at me.

#### Leitz Issues New Model of Reelo Tank for Leica Users

A NEW model of the Reelo Tank is announced by E. Leitz, Inc., New York. The former model was constructed of monel metal and the reel of bakelite. The new model is exactly the same as the older, ex-

cept that the tank is now made entirely from bakelite, as is also the reel. The Reelo has been a favorite of Leica owners and motion picture workers for short test strips. Now two tanks are available, the Reelo and the Correx.

A tiny accessory which will be of interest to a great many Leica camera owners is the new self-timer. It consists of a rather thin metal tube which is screwed on to the shutter-release button.

There are often times when the Leica camera can be used at waist-level to good advantage. A reflecting view finder is offered which permits this. It is merely slipped into the grooved holder on top of the camera. By looking down into the finder the exact area covered by the lens can be seen at a glance. This finder can also be used as an angle view finder.

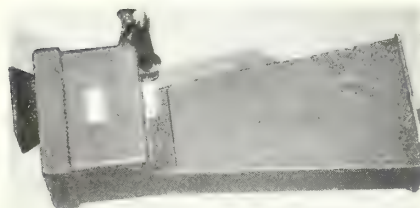
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# INTERNATIONAL PHOTOGRAPHER

## HOLLYWOOD

Vol. 5 HOLLYWOOD, CALIFORNIA, MARCH, 1933 No. 2

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*"Capital is the fruit of labor, and could not exist if labor had not first existed. Labor, therefore, deserves much the higher consideration."*  
—Abraham Lincoln.

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Printed in the U.S.A. at Hollywood, California

## Attention Cinematographers

●● Commencing with April *The International Photographer* will begin the publication of a series of

### TABLES IN CINEMATOGRAPHY

*By*

Fred Westerberg

These tables will prove invaluable to both professional and amateur cinematographers as they cover a wide range of practice. They have been worked out by Mr. Westerberg in practical operation and will be so arranged in the magazine that they can be clipped out and bound into a convenient pocket size ring book. A few of the titles will give a clear idea of the scope and practical usefulness of the work: "Filter Factors," "Depth of Field," "Filter Transmission Graphs," "Sensitometry Tables, Showing Overall Gamma Obtained by Various Combinations of Positive and Negative Gammas," "Make Up," "Projection," "Illumination," "Weights and Measures," etc.

### AROUND THE WORLD

*with*

Herford Tynes Cowling

●● Beginning with its April edition *The International Photographer* will publish a series of lectures-in-pictures by Mr. Cowling from his own pen and camera—all new and original. The picture-lectures will run at least ten months. Mr. Cowling is an artist of international fame and this feature will put forth his best work. Beginning with April the titles of the picture-lectures will be "To the Roof of the World in Tibet," "Filming a Tiger Shoot in India," "Some Tribes of Central Africa," "An Indian Durbar," "At the Court of the King of Bunyoro," "Around the Orient," "East of Suez," "Filming Formosan Head Hunters," "In Siamese Society," "Fighting with China."



# The History of Cartoons

*Along the Devious Pathway of Motion Picture Cartoons*

*From "The Artist's Dream," 1913, to*

*"Mickey Mouse" Today*

By EARL THEISEN

*Honorary Curator Motion Pictures, Los Angeles Museum*



The history of animated cartoons as a practical form of amusement dates from the announcement of the first J. R. Bray cartoon, "The Artists Dream", released by Pathe on June 12, 1913. Some say this cartoon was called "The Dachshund", because the central character was a German dachshund. Wallace Glendenin remembers seeing this picture at Clune's Theatre in 1913; while not remembering the exact title, he recalls the picture left him and the audience near a hysterical mood from laughter. This, while not the first of the animated car-

toons, is the forerunner of the cartoon vogue and from it dates the cartoon technique as it is today. This cartoon is the first whose sole purpose was comedy.

Before photography was available for motion picture work, it will be recalled various men had tried to draw pictures in motion by drawing in cartoon form the necessary successive pictures, after which they were shown intermittently to the eye in small toy-like devices. Joseph A. F. Plateau, who made a device which had two discs that revolved on the same shaft was the first to employ a series of hand drawn pictures. The pictures were drawn around the outer edge of a rear disc while the front disc had a series of slits in its outer rim. It was first made in 1831, and was known as the "Phenakistoscope."

Probably, the most successful of these pre-photography devices was the "Daedaleum" or "Wheel of the Devil", invented by William George Horner, in England, in 1834. It was a drum with narrow slots around its top rim. The pictures were drawn on strips of paper about two and a half feet long. The favorite subject was the devil, who, upon peering through the slits of the revolving drum, could be seen frantically waving his trident. This drum device was later re-invented and patented by Desvignes in France, in 1860, when it came to be known as the "Wheel of Life." It was first made in the United States by William Lincoln, in 1867, to remain a popular toy for many years. Its popularity is attested by the fact that one of these fragile and cumbersome toys has been known to cross the plains in a covered wagon.

The first cartoon drawn for motion picture film, accord-

ing to present records, was made by J. Stuart Blackton for Vitagraph, in 1906. It was copyrighted and released at this time as "Humorous Phases of Funny Faces." It consisted of cartoon bits having very little plot, such as a man rolling his eyes, blowing smoke at his girl, or a Jew and his nose, a dog jumping over a hoop, and it ended by showing Blackton doing a chalk-talk type of drawing in which apparently the drawing starts as one thing and ends up another.

The next man to enter the cartoon field was Winsor McCay, who is with the New York American today. He made a series of cartoons, the first being completed early in January, 1911. It was known as "Little Nemo," and was photographed in one reel length by Walter Arthur, directed by J. Stuart Blackton and was billed by Vitagraph as "Winsor McCay Makes His Cartoons Move." It contained over 4000 separate drawings, each complete with a background. It was considered a mammoth undertaking at that time even though cartoons today have as many as 15,000 drawings for only six minutes screen time. His second picture "How a Mosquito Operates" was made in December, 1911 in 600 feet and was sold to Carl Laemmle. The third was "Gertie, a Trained Dinosaur" which sold to William Fox. They were all used as a vaudeville act by McCay, who toured with them and explained their technique. They were considered a clever



"Col. Heeza Liar," the most popular of the early cartoons. The person in this picture is Walt Lantz, who draws the Universal "Oswald."



photographic trick. McCay continued making them until the process was patented by Bray in August, 1913.

Bray, during the period of 1913-16 was granted several patents on motion picture cartoon making covering such claims as methods of registering each cartoon while being photographed so as to be held in correct position in relation to one another. Method of opaquing the cartoon figure on celluloid so the background wouldn't show through. Prior to this cartoons had each been made complete with their own background, whereas Bray started using characters painted on celluloid photographed consecutively over the same background, thus having to draw only one background for all the action transpiring over that scene. He also introduced the "stationary" drawing which comprises the use of separate celluloids when a part of the cartoon figure is still while part is moving. Just one drawing is made for the still part and only the moving part is drawn in action, thus saving extra drawing.

J. R. Bray and Earl Hurd combined their patents and formed the Bray-Hurd Process Company early in 1917.

Another Bray cartoon was "Col. Heeza Liar," who was the Mickey Mouse of his day. This cartoon was by far the most popular of the early cartoons. The first one of the series, "Col. Heeza Liar in Africa" was released by Pathe on December 13, 1913. Walter Lantz, who draws "Oswald, the Lucky Rabbit" for Universal today, drew this series in its later years.

Another to make cartoons during the earlier days was Sidney Smith who made "Old Doc Yak" for the Selig Polyscope Company. The first was released July 8, 1913.

The big four in cartoon making during 1915, besides Bray, were Earl Hurd who made the "Bobby Bump" series; Wallace Carlson making "Dreamy Dubb", also later "Animated News" which was an out of the inkwell combination, and Paul Terry with his "Farmer Al Falfa."

The next company to improve cartoon technique was the International Feature Syndicate. This company greatly improved cartoon making by perfectly synchronizing the action of the characters. For example, the earlier cartoon character would either walk too fast or not fast enough for their speed. This made them appear to be walking fast while only moving slow or vice versa giving the appearance of their feet sliding on the ground. Another characteristic was the "Bubble" type of title. This was a title that is similar to the press cartoons where the title appears in a balloon with a line leading to the character. When the title would appear on the screen the character would turn its head and "yap" or rapidly open and close its mouth to represent talking, which of course greatly interfered with the story continuity, just as an explanation in the middle of a joke is detracting.

The International discontinued this for the conventional screen title of the silent days. This company also was the most prolific of the early cartoon makers, achieving their greatest popularity during 1917-18. Their cartoons listed at this time such characters as "Jerry on the Job," "Katzenjammer Kids", "Bringing Up Father", "Happy Hooligan", "Krazy Kat", and probably the best of their release was "Silk Hat Harry."



Recording Walt Disney Cartoon, showing the sound recording stage in full swing, with many devices for making artificial sound

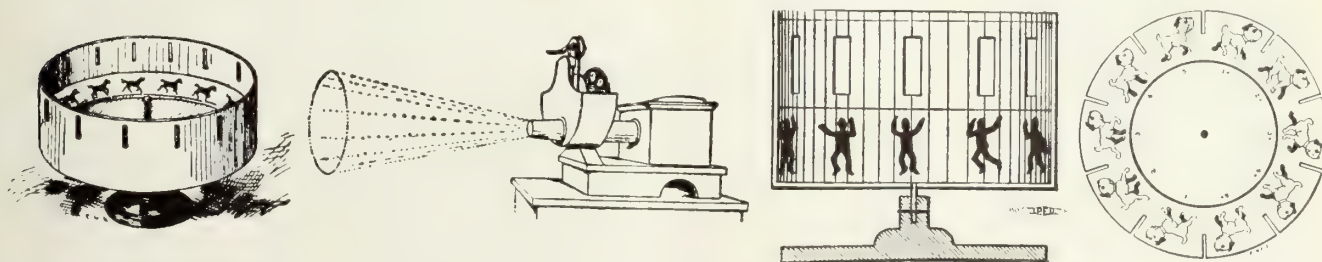
Other notable cartoons at this time was "Mutt and Jeff" made by Bud Fisher and released by both Bud Fisher Films Corporation and the Fox Film Corporation. A Kay Company releasing a Terry Cartoon Burlesque. Sterling Pictures releasing the "Zipny" character.

Max Fleischer was the first to make the out-of-the-inkwell type of cartoon starting sometime in 1917. This is a combination of a photographed picture to which is added a cartoon character by means of photographing a series of opaque characters on celluloid over the previously photographed conventional motion picture.

The first serious attempt at a dramatic cartoon was made by McCay sometime shortly after the World War when he made "The Sinking of the Lusitania."

Skipping lightly over the years to the first of the sound era, we find Walt Disney busily engaged making his first Micky Mouse. The first cartoon to be made in sound was the Micky Mouse picture, "Steamboat Willie" first shown on September 19, 1928 at the Colony Theatre in New York. There had been one earlier Micky Mouse, "Plane Crazy" although it was released later with sound. From the first Micky Mouse was an instantaneous hit, his popularity increasing with the years to where, now, he is far beyond the challenge of the screens' greatest character. He is the first screen character to command the attention of the so-called intelligentsia, who have always regarded the motion picture as an upstart art. Now, this class of people go to see pictures for the cartoons. Disney had his introduction in cartoon making in St. Louis when he made a series of "Laugh-O-Grams" in 1921. In October, 1923, he and his brother came to Hollywood and started the "Alice Cartoons" which were a combination of real life characters and cartoons.

(Continued on Page 4)



The "Zoetrope" or "Wheel of Life," perfected by Desvignes in France, in 1860. This device showed hand-drawn pictures and its favorite subject was the trotting horse.

The Phenakistoscope, as combined with the magic lantern in the 1840's.

The Zoetrope of William Lincoln. This is the perfected type of device originally made by William George Horner, in England in 1834; at which time it was known as the Daedaleum, or Wheel of the Devil. Patented by Lincoln in the U. S. in 1867, April 23 as patent No. 64,117,

A cycle of drawings, showing a dog in motion, used in the Phennakistoscope invented by Jos. A. F. Plateau in 1831.





On the left is seen main title first cartoon on motion picture film, by Blackton. Bears a 1906 copyright. Continuing upper row, funny frames and in center Blackton doing a chalk talk—final scene in cartoon.

At right of second row is the "Artist's Dream," first Bray cartoon, which made German Daschund famous, and from which cartoon history dates. As depicted below, Mr. Bray appears in cartoon.

In third row observe Pathe cartoon made about 1911, when they were running cartoon pieces at end of newsreels. Note Pathe edge stencil.



*The Bouncing Ball, first method of synchronization. This ball bounced up and down on the screen, so musicians could synchronize the sound to picture.*

His first Silly Symphony, "The Skeleton Dance" was released at the Carthay Circle, in Los Angeles, in July, 1929. It was later shown at the Roxy in New York where it was rebooked for the second show, which gave it the distinction of being the first picture so booked at this theatre. It is of interest to note that this picture was completed in January, 1929, and a booking at any theatre could not be found until it was shown at the Carthay

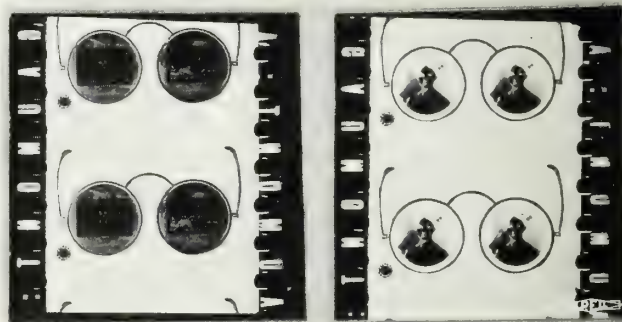
Circle. Now it is a task to make them fast enough.

Disney's first method of synchronizing was by the bouncing ball method which was a little ball that bounced in time to the music to guide the musicians who watched the picture on the screen during synchronization. This ball was along the edge of the film which was later replaced with the sound track for releasing. He next used a waving line, and then finally adopted the aural

method which is by ear phones. The ear phone method is still in use. Disney controls the sound cartoon patents.

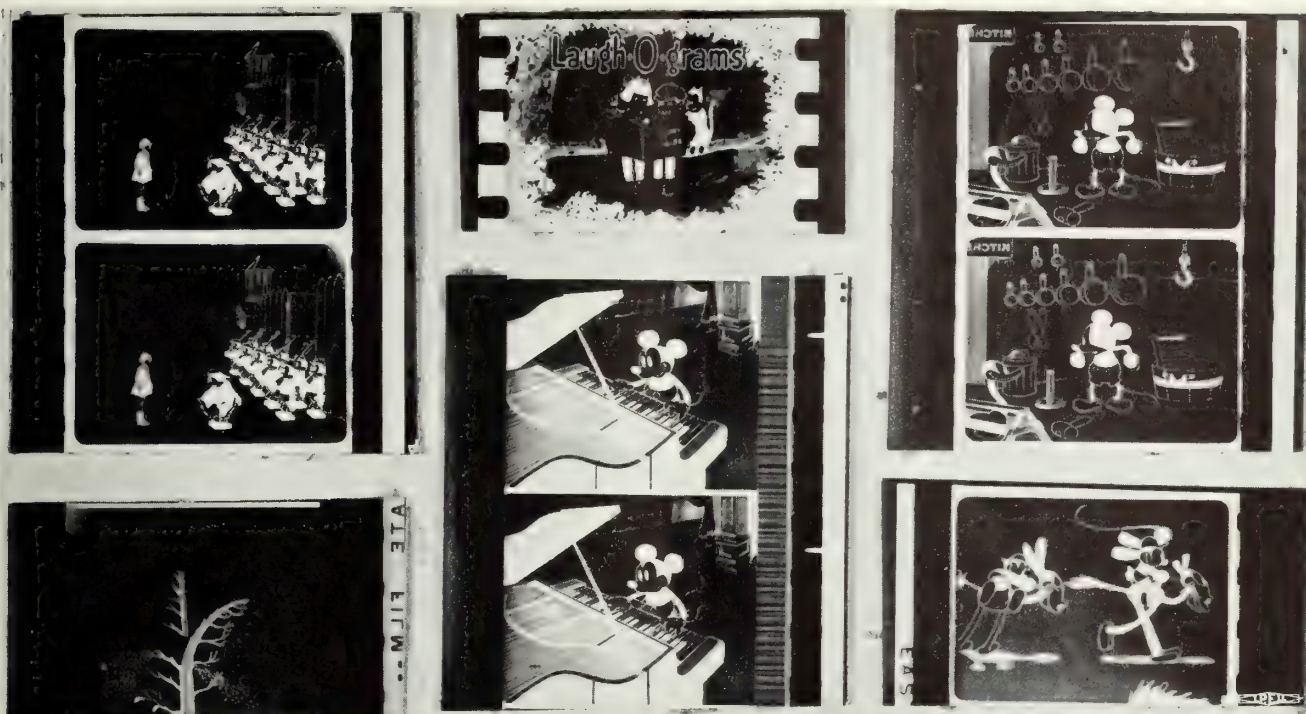
The next improvement in cartoon technique was the addition of color. The Silly Symphony "Flowers and Trees" first shown at Grauman's Chinese, July 15, 1932, and was the first colored cartoon. It employed the Technicolor Cartoon process, which is a three color imbibed process, which gives a combination of all spectral colors. From today's standards it doesn't seem that cartoon making, or, in fact any screen picture could go beyond the beauty and entertainment entering into one of the cartoons.

Other current cartoon characters are Oswald and Pootch-The-Pup made by Walter Lantz for Universal.



Here we have a lap-dissolve, in which a cartoon is dissolved to a picture made by Gaumont about 1912. Note Patents Company "License" stencil on the edge.





At upper left we have the "Alice Cartoons," made by Disney in Hollywood in 1923. Combination of cartoon and real life. Center top, main title of a "Laugh-O-Gram," first series by Walt Disney in 1921.

At right, "Steamboat Willie," first Mickey Mouse, released with sound, November, 1928.

Left of third row shows Disney's Silly Symphony, "Playful Pan." In center we have two frames of Mickey Mouse, "Blue Rhythm," with sound track, made in 1931. And at right is to be seen one of the early "Oswalds" series that is made now for Universal by Walt Lantz.

Krazy Kat and Scrappy made by the Mintz Studio. Looney Tunes and Merrie Melodies made by Leon Schlesinger;



A Packer Cartoon of 1916

Flip—The Frog by U. B. Iwerks on M. G. M. release. Aesop's Fables and Tom and Jerry by Van Buren Corporation. Betty Boop by Max Fleischer. Bosko by Harman-Ising released as a Looney Tune, Magazine of the Screen by Bray and Terry Tunes by Paul Terry.

It is of interest to compare the attitude of the present day cartoons, considered as they are the acme of entertainment, to that of 1912-13 when they were apologetically released and were always coupled with real life characters to give a reason for their existence. For example, "The Artists Dream" had as an introduction an artist who fell asleep and his drawing came to life. The McCay introduction took the form of a bet that he could not draw motion. Pathe ran some cartoons at the end of their news reels in an experimental way which were nothing more than terse, trite bits of action during 1911-12.

Today, if cartoons were to be eliminated from the theatre program they would be missed like the passing of a friend.

Appreciation is extended to Wallace Clendenin for information furnished in the preparation of this article.

Photos courtesy Leo A. Young

### OLIVER TWIST

First cameraman, Roy Hunt; operative cameraman, John F. Jenkins; assistant, Guy Newhard; stills, Joe Walters; sound, John A. Stransky, Jr.; film editor, Carl Pearson.

**C**OULD Dickens with his remarkable ability to pen real characters have looked in on this Monogram preview of "Oliver Twist" undoubtedly he would have agreed neither the story nor the characters lost anything in the transference to celluloid.

Roy Hunt achieved a masterpiece of photography in this picture and took full advantage of all the many opportunities offered by the story.

### DANGEROUSLY YOURS

First cameraman, John Seitz; operative cameraman, Arthur Arling; assistants, Harry Dawe and Russell Hoover; stills, Joe List; sound, Albert W. Protzman; film editor, Harold D. Schuster.

**L**IGHT entertainment with a few humorous situations is Fox's "Dangerously Yours." Warner

Baxter is the light fingered Andrew Burke. Just when the villain gets the jew-ells and thinks he has the girl—Curses, she turns out to be a detective. Is he foiled? You won't so when you see Miriam Miriam Jordan, the erstwhile detective, going around his yacht with the latest idea in slave bracelets—a nice portable anchor chained to her ankle. Frank Tuttle directs. The cinematography is in consonance with the best performances of Mr. Seitz.



# "OUT OF THE DIARIES OF THE UNSUNG!"

—by Fred Felbinger—

By Arrangement with  
**NORMAN W. ALLEY**

Copyright by International Photographer

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(Concluded)



Aboard the Lord Talbot—after rescue, right to left, Peter Redpath, Joseph Ruff, Norman Alley, Jerry Altfilisch.

## Previous Chapters

**I**N the January issue of International Photographer was printed the opening of this story compiled by Fred Felbinger from the diaries of four men who told first hand of their experiences in the loss of the plane City of Richmond in northern waters—better known to fame as the ship of the Flying Family.

Three of these diarists were of the plane—Norman W. Alley, cameraman, and Jerry Altfilisch, sound man, both members of Chicago's International Photographers, and Peter Redpath, navigator. The fourth was Alex Main, first mate of the Lord Talbot, the rescuing ship.

The introduction tells of the start from New York with a complete camera and sound equipment and of the ship's stops at St. John, Port Menier, near the mouth of the St. Lawrence, and Hopedale, Labrador. The first mate of the Lord Talbot describes the trawler's departure from Aberdeen, Scotland, bound east for Greenland. Among other interesting things the mate tells of these hardy fishermen slipping along through northern waters and by wireless laying money on a horse back in England—backing him to win and the animal running second.

After battling heavy fog and ice they reach Anmagalik in Greenland whence they proceed to Iceland. Fog forces them down one and a half miles from shore with plenty of ice between. Their S O S is picked up by the Lord Talbot (the only ship in the region with a wireless aboard) just before their radio goes out. Then the motors die. Finally after heroic efforts they get the passengers ashore. During the 12 minutes the ship remains afloat they salvage all they can, including some wet canvas to ward off the icy blast. Here on this bleak island in nowhere they spend the night.

## Chapter Five

**T**HE Lord Talbot is under orders of "full steam ahead". Ice flows batter agin' the bow of the hull of the sturdy fishing trawler. The Lord Talbot, you see, is on a mission of mercy . . . somewhere out in that bleak Arctic nothing,—eight lives are hanging on a thread . . . eight pitiful souls engulfed in a vast Arctic void . . . an S-O-S established these eight souls in the routine of the Lord Talbot and her crew . . . a quiet, peaceful fishing routine now turned to emergency action . . . so the bow of the Lord Talbot creaks and groans . . . not in despair . . . but she creaks and groans sort of victoriously in her contact with the threatening, ever threatening ice flows . . . her Captain spares no effort in this dash of mercy . . . as we will see in that simple narrative of Alex Main, first mate of the Lord Talbot as he makes notes in his little black book that he started just out of Aberdeen . . . the first mate is writing, unknown to himself, a simple tale of heroism . . . of heroism of men who go to the sea in ships:

"Sunday, Sept. 11th—A rather sad S. O. S. has just been received by our Sparks, now 3:30 P. M. The Flying Family, consisting of Mr. and Mrs. Hutchinson, Katherine, aged 8 and Janet Lee, aged 6 years along with a crew whose names read as follows: Peter H. Redpath, Navigator, Norman W. Alley, Cinema, Joseph F. Ruff, Mechanic, Jerry Altfilisch, Radio Operator, that their flying boat has been forced down in L65, 28N Long, 38 L5W. We have about 25 miles NW by N Mag. to go from where we are lying, so we set off at full speed, all hands are now on the lookout, we have just about run our distance when one of the crew sees a black object right ahead so our chief engineer gives her every inch that she can possibly do. I receive orders from the Captain to have the small boat ready for launching which we do in about 5 minutes.

"However, when we arrive at this black object, we find it a piece of black ice. However, we still keep on our course and arrive at the position given in less than 2 hours and a quarter from the time of setting off. We are passing a lot of large icebergs and grawlers. All hands are keyed up to the mark staring at nothing but ice and vast stretch of water with more ice. The cold is very severe but we hardy race of line fishermen do not let that trouble us when life is at stake. Our minds have but one thought, the poor mother and her two children.

"8 P. M.—We have our tea brought to the wheelhouse but nobody seems to



"The Captain sends me aloft to the crow's nest to work the searchlight." Alex Main, first mate, in the crow's nest of the Lord Talbot.



be hungry. Darkness is beginning to fall so I get orders from the captain to have our searchlight in order.

"10 P. M.—We send up our first rocket which travels about 100 yards into the air leaving a red trail behind it then it explodes with a bang like the shot of a gun and breaks into a group of stars which seems to linger into the air during their descent. The searchlight is now going and we are cruising around from his given position, but still no sign of him.

"11 P. M.—We send up another rocket as described above, all hands are now on the alert, in case he answers our rocket. It is now pitch black and very fearsome dodging in and out amongst those titanic bergs.

"Monday 12th. 12 A. M.—We send up our last rocket and look patiently for a reply but still no sign of the poor 8 souls who might be drowned or even sitting, waiting on death. What must be that Flying Family's thought with all that is dear and loved to them, looking into one another's faces? Our ship's crew seem to be feeling the suspense, no jokes are going around, no hearty laugh like what we are in the way of having. We all have but one thought, to see a light or flare, something that will relieve the suspense.

"Monday 12th. 2 A. M.—We are still steaming around the flying ship's given position. Our Captain is showing a wonderful example to his crew, with such sayings as, keep a sharp lookout, we will find them alright. He is to my mind using exceedingly good judgment in the way he is setting the different courses from the given position.

"3 A. M.—We now stop the ship and receive orders from the captain to put out all lights on deck, the reason being that any light showing on deck throws a reflection, so that the crew can see much better all around. After laying for half an hour the captain gives me orders to start the searchlight, and we steam at full speed, for half an hour. Still no sign of the Flying Family. We are now wondering if their ship is still afloat. Our Captain relieves us all by saying they will be floating all night, they may have given us their wrong position. His remarks seem to lighten our spirits. We are now all on tenterhooks till daylight comes. The cold is now very severe but every man of us does not let a trifle like that worry him. It is a marvelous sight to see those hardy fishermen as far up the ship's rigging as they can possibly get. We are all receiving words of encouragement from the captain. He is a born teacher of men. The crew would go through fire and water for him. Four members of our crew including myself, have sailed with him for the last 6 years, so we know the captain to be what he is.

"7 A. M.—Daylight is now beginning to come in—we are still cruising around but no signs of the Flying Family. You can hear such remarks from different members of the crew such like as, May God pray that they are still afloat, and May they all be spared from a watery grave. Daylight is now in so our captain sets a course nigh in shore.

His idea is very good. He thinks that the airship might have taxied inshore after she landed.

"10 A. M.—We are now about 3 miles off shore and start steaming back along the coast towards Cape Dan, the idea being to try and locate the plane or the Motor Launch, Stella Polaris, belonging to the Arctic Airways who left Angmalisch at dawn. Today we are all keeping a sharp lookout.

"12 noon—We are now abreast of Semilk Fiord but still no sign of either parties.



CREW OF THE LORD TALBOT

Captain Tom Watson, seated center, First Mate, Alex Main to the Captain's immediate right (Left of the picture)

Our captain now decides to steam full speed to Cape Dan where the Aberdeen Line Boat Mount Arch is working lines. We arrive at the Mount Arch about 3 P. M. We also find another Aberdeen Line Boat there, the Star of Victory, belonging to the same company as our ship. We get in touch with both ships, and our captain tells them of the mishap that has befallen the Flying Family. Both those ships agree to join in the search, so our captain gives them the following orders, The Star of Victory will steam 20 miles SWGS. Lord Talbot will steam 14 miles SWGS. The Mount Arch will steam 6 miles SWGS. You will see by the above course and distance we are all in one straight line. When each ship had run her distance, our Captain gave them a signal by our steam whistle to alter course to NWGW and run 42 miles. You will see by this that we are the center ship. The reason for that is we are the only ship with wireless so that we could give them any detail by Morse Code of the missing airship. The strain is beginning to tell on our eyes not being in the way of having such a long lookout for that which is not there and is there. It is a sight to see these three ships running neck and neck. If anything, we are a little ahead. Still no sign of anything. We have received a message by wireless that an airplane is on its road to help in the search. Dusk is beginning to fall so we are making ready for another 'all night sitting!'

### Chapter Six

Eight anxious adventurers forced down on an uncharted island, in a bleak Arctic void. . . . Eight humans divorced from Civilization and now on the threshold of almost certain eternity in oblivion . . . an oblivion of the missing . . . what goes on in the minds of men at a time like this? . . . Peter Redpath, one of eight nearing oblivion, writes:

"Made rough camp at best vantage site up on rock and kept regular lookout—crews soaked and freezing—rationed oil and grease full also food—very poor outlook—however, made best of a bad situation—no sleep and very cold."

Norman Alley writes:

"We walked to the other side of the mountain and learned then that we were on an island! In addition we knew finally that we were several miles from our given radio position. We had a meeting that P. M. and decided to try and rig up a pontoon boat of some sort from the gas tanks if we could salvage them. Our only chance seemed to depend on our being able to fish and build up a reserve food and fuel supply. Impossible almost but at least a definite plan to occupy our minds."

Turning back the pages in Redpath's diary, we continue: "Next day (Monday) Alley, Ruff and self, explored island to no avail. Altflisch trying to rig emergency wireless. At meeting in P. M. decided to try and salvage parts and gas tanks of plane to try and make boat,—if possible, to make stone house, catch fish for fuel and survive what in our hearts we knew to be impossible."

Jerry Altflisch, notes a few more humble lines of heroism:

(Continued on Page 24)



"Too much credit cannot be accorded the seamanship of the entire crew, in coming through the dangerous ice-pack to effect our rescue." Norman Alley.

The Flying Family boards the Lord Talbot safely

Photos courtesy of the London Daily Sketch.



# New Camera Marvel Unveiled

Bell & Howell Latest Model Professional Is On Exhibition After Three Years Research and a Cost of Over \$300,000

By EDWARD T. ESTABROOK

*International Photographer*

THE long anticipated new silent Bell & Howell camera is in Hollywood. Mr. J. H. McNabb, President and Mr. Albert S. Howell, Vice President and Chief Engineer of the Bell & Howell Company, arrived here last week with the camera, which is the result of three years of the most intensive research and experimental work and based upon their twenty-five years of cinematographic experience in the building of precision motion picture machinery.

This new silent camera was designed by and constructed under the direct supervision of Mr. Albert S. Howell and it is safe to say he believes he has constructed a camera that will solve all the difficulties now encountered in the use of the present cumbersome and unwieldy blimps. The cost of development runs well over \$300,000.

Preceding the development of this camera the Bell & Howell Company experimented with several other models of the silent camera which were subsequently discarded as unsatisfactory and not up to the standard of perfection that was the goal of Mr. Howell's visualization of what would be the perfect motion picture camera for present day use.

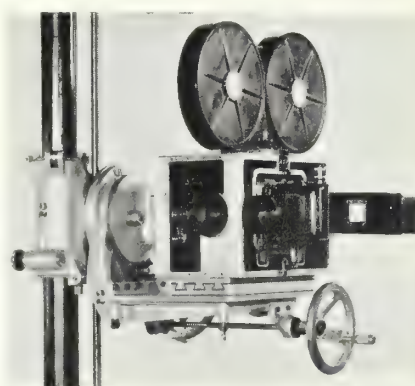
In addition to constructing a silent motion picture camera it was the aim of the engineer to make a camera that would be so designed as to combine the elements for which every cameraman dreams. Mr. Howell claims this camera is more than the answer to the cameraman's prayer in that it will be possible to do even more with it than a camera was usually called upon to do in the course of a production.

The camera itself is extremely compact. It weighs a little over one hundred pounds and is so constructed that there is no metallic contact between the outside housing and inside mechanism. The bottom of the camera has been soundproofed and constructed in such a manner as to eliminate the transmission of sound through the tripod. It can be mounted on any of the existing tripods or camera mounts.

The camera is operated by a specially designed and built in 48 cycle, 3 phase synchronous motor which is an integral part of the camera. All possible gears have been eliminated to a minimum and the ones that are used are worm type packed in special grease which eliminates all gear noise.

One of the principal features of the camera that will appeal to the cameraman and director is the newly de-

signed finder, the optical system of which is synchronized with the photographing lens. The camera is focused by means of a knob on the right hand side of the camera, which in turn automatically focuses the finder lens and centers the image on the finder.



*This photograph of the new B. & H. camera shows the box mounted upon the B. & H. perambulator and does not do the camera justice, but being the only shot available, is submitted herewith until a complete layout of views can be presented.*

The focus scale on the indicator in the rear of the camera is the same for all lenses, the difference being automatically compensated for by a special device on the lens mount. Only one lens at a time is used, each lens being mounted in a standard size mount which is easily and quickly placed in the camera and locked by a quick acting device.

It is possible to use all focal length lenses from a 24 mm. to the longest focal length desired and by means of an ingenious device each lens is synchronized to the focus indicator, which is in the rear of the camera, by a turn of the micrometer mounted on the top of the finder which automatically adjusts the movement of the lenses for focusing to the indicator.

The finder focus being always the same as the camera focus it is even possible to focus the camera on the finder and it permits the cameraman always to check his assistant and prevent any error in following focus. The follow focus indicator at the rear of the camera is illuminated.

The finder is considerably larger than the conventional finder now in

use, which permits a much larger field of view, and although heavier and more rigid in construction it is very easy to operate. The image in the finder is upright. The finder is so operated as to automatically compensate for parallax between the finder and the camera. In order to make the entire optical system absolutely accurate to within .001 inch it is necessary that the lenses used be fitted and calibrated to each individual camera because of the fact that there is a variation of a fraction of a mm. between lenses.

On the side of the finder is a record of the exact focal length of each lens with the corresponding micrometer reading opposite, making it possible for the cameraman instantly, by a slight turn of the micrometer, to place each lens field in correct synchronization with the finder and indicator.

Another improvement is the diaphragm on the finder lens. The model camera is equipped with Cooke Speed Panchro lenses in the following focal lengths: 26.62; 32.38; 40.41; 50.43; 77.03; 102.29; 108.90.

Another revolutionary change is the method of focusing which is accomplished by a device that moves the film and the film gate, the lens itself being stationary. Focusing through the aperture is done through an eyepiece on the right hand side of the rear of the camera and through an optical system which is operated by a lever on the right hand side of the camera and which moves the film gate back from the lens, permitting a prism to drop into its place at the exact focal plane.

By means of this same device it is possible for the cameraman to focus through the camera with the film running at full speed and by a shift of the aforesaid lever the prism is moved out of place and the film gate automatically moved to its photographing position. This enables the cameraman to see the picture up to the very last instant before actually photographing.

Differing from previous models this new camera does not need to be shifted over, the camera lens being stationary at all times and the camera mounted in a perfectly balanced position on the tripod head.

The shutter has an opening of 180 degrees, an increase of 10 degrees over former models and, although there is no automatic dissolve in the camera, it is possible to adjust the opening of the shutter to any size in lens stop values. This is operated from the back of the camera.

The principle of registration in the camera movement is basically the same as in the previous B. & H. models; for instance the registration is assured by the use of fixed pins, thereby making for steadiness of the picture and permitting all kinds of process and trick shots without vibration.

An important improvement has



been made in fastening the film movement in the camera, it being possible to remove or replace it by a slight pressure on a conveniently placed release. When the movement is removed it can be fully opened for cleaning purposes, making it possible to quickly inspect and clean the fixed pins and aperture.

The bearings used in the camera movement are self adjusting to insure continued quietness and perfect performance. It is also constructed to eliminate to a minimum the possibility of scratches and abrasions. The film is moved by a feeding finger or pin, the cam action permitting the film to start slowly, accelerate and then stop slowly which is an important factor in preventing any damage to sprocket holes.

Mr. Howell told the writer that in tests a single piece of film was run through the camera many hundreds of times without damage to the sprocket holes. The film loops are quite small, which helps eliminate practically all the noise from film slap. The film is fed into and out of the movement on two separate sprockets. If buckling of the film should occur there is a special release that automatically stops the camera. This release is so built that it cannot be disengaged accidentally and because of this feature the cameraman need not worry whether his clutch is engaged or not.

The tension of the magazine belt is

automatically governed by an equalizer which is an integral part of the camera and which is adjustable to compensate for any stretching of the special fabric belt. This adjustment is reached through the inside of the camera.

The camera is started by turning a switch which is placed on the right hand side of the camera and quickly stopped by pressing a button at the same point. The camera is ball bearing throughout and the lubrication system is efficient and extremely simple. All types of Bell & Howell magazines are interchangeable. Mr. A. S. Howell claims this camera will operate with any type of recording system.

Tests have already been conducted at the M-G-M studio in co-operation with the sub-committee on silent cameras of the Research Council of the Academy, carrying comparison with some of the heavy, cumbersome blimps now in use, in order to determine the camera noise level. The result proved that this camera is well within the tolerable limits of permissible noise over and above the set noise level.

#### John Silver in Manila

Word from John Silver, I. P., to Jackson Rose tells of the former's safe arrival in Manila early in the winter. The traveler for a long time was with the Columbia Studio.

#### Silent Camera Bulletin

The Silent Camera Subcommittee of the Academy Research Council met Monday evening, February 27, at Metro-Goldwyn-Mayer Studios to make sound and photographic tests of a new camera which was recently brought to Hollywood from the Chicago plant of the Bell and Howell Camera Co.

This is in line with one of the principal functions of the Research Council to test new equipment for the industry under actual production conditions and with studio equipment.

Details of the tests were arranged by the Subcommittee at a luncheon meeting Saturday noon, February 25, at the Academy office, with J. H. McNabb, President, and A. S. Howell, Chief Engineer, of the Bell and Howell Company, who brought the new camera from Chicago, sitting in.

The Silent Camera Subcommittee of the Research Council which has been working since last August to co-ordinate studio efforts toward the development of a silent camera which can be used on the set without the cumbersome blimp to shield camera noise from the microphone, consists of Virgil Miller, Chairman, John Arnold, John W. Boyle, John L. Cass, Wm. Eglinton, Lorin D. Grignon, Bert Glennon, Kenneth Lambert, Grover Laube, K. F. Morgan, Wm. F. Rudolph, John Seitz, Theodore Soderberg, Al Tandreau and A. G. Wise.

# The New EYEMO joins the Indispensables



The new 35 mm. Eyemo Hand Camera, with its motor drive and 400-foot magazine, has added countless situations to the realm of "possibilities." Its portability, flexibility, and all-round satisfactory photographic results put it in the front rank of indispensable professional movie mechanisms. Its motor, giving constant sound speed of twenty-four frames a second, can be attached or removed in a moment. Comes in both 12-volt and 110-volt models. With its 7 film speeds, three lens turret, variable viewfinder, built-in spring and hand crank drive, and its complement of Cooke lenses, the Eyemo is the most useful camera in the specialist's equipment. Camera alone, \$450, tax paid. Motor and magazine extra. Prices on application.

#### Cooke Speed Panchro Lenses

Bell & Howell Cooke F 2 Speed Panchro Lenses were designed especially to give highest quality results with today's lighting and films. Their new plan of chromatic error correction gives sharp pictures. For instance, the 3" F 2 lens, wide open, has a maximum variation of chromatic focus, for all lights used in the studio, of only .001". Remarkably corrected, too, for all other aberration besides the chromatic, and extremely suitable in daylight. Eleven focal lengths, from 24 mm. to 4¼". Cooke F 2.5 Panchro lenses come in seven focal lengths, from 35 mm. to 6¾".

Write for data and prices.

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# From the CARIBBEAN

By PAUL IVANO

*International Photographer*

WELL, here I am in Florida, with time on my hands. In the late fall the place is void of all excitement. It looks like a Hollywood studio during depression times.

I am waiting for flying orders from Director Josef von Sternberg, whom I will join by plane in Havana, to shoot the exteriors of his forthcoming picture for Paramount, and now, in order to enjoy the climate, I am stopping at the Pancoast, the only hotel open on the beach.

The whole place looks like a motion picture set. Men are taking off hurricane shutters, unbuckling the chains and turnbuckles that hold the bath-house together and the wires protecting their cocoanut trees between hurricane seasons.

So, being still an amateur, I decide to make a few tests on a dozen plates out of the seventy-five dozen I am carrying for the expedition. (Eastman Superpan).

I ask my assistant to load a dozen, but he answers he does not know how. Then remembering I have along my good old reliable Leica Model "C" with three lenses, I go gunning for clouds, palm trees, beaches, airplanes and maybe models. But, as Parichy explained later, models were still modeling on Fifth Ave. or the Riviera. So I had to be satisfied with birds of another feather.

As much as I hate to do so, I have to speak about Parichy again and again and again, (I am not quoting any directors,) as a stay in Florida without putting up with that famous emigrant from California would be completely incomplete.

After shooting my first reel of Leica I realized that my developing tanks were all in the luggage room of the Panamerican Airways. So I went shopping for a darkroom. Found a perfect one in the Tropical Camera Shop. And, just as the name implies, it has a really tropical dark room—Frigidair, circulating developer, dust-proof rooms and, outside of our mammoth labs, the only place of its kind I have ever seen during my numerous travels.

After mixing my own formula and developing the first reel I came to the conclusion that I was right, and that Dupont Superpan was really a superpan. (And did I get details in the green shadows. But since when are shadows green, if you know what I mean).

So, confident in my exposure and my outfit, I started on my shooting expedition and at the Miami Photo-shop I ran into our International Photographer Magazine or rather visa versa. There the kind owner informed

me that our staff correspondent, E. Parichy was in town and did I know him? Of course I did not, but having seen his fish pictures in one of our old magazines and being very curious as far as said fishes are concerned, I decided to call him up. His name is in the book. In Miami one does not have to hide as in Hollywood. So against the wishes of my man Friday, (I would not say good) who insisted that expedition men were not in his class, (and I do not think they are) I called the Aquarium, I mean Parichy's home. And that is how I met Parichy. We were both born in May, so breaking all the rules of the Zodiac we got along immediately.

Then Parichy insisted that we go and see the famous alligators in the Seminole Indian Reservation. This was also in a state of dolling up. The alligators were asleep, the women were cutting up beautiful pieces of material into small pieces and then sewing them up again into native dresses of a hundred colors. There were no men. They had all gone into the Everglades in their long canoes to hunt alligators and snakes, for the purpose of furnishing the alligator farm and the world market with more belts, bags and baggage. That was a perfect day.

Miami beach itself is an island, made bigger and reinforced against erosion by steel pilings, stuck all around its shores. One reaches there via the Venetian Way, built over Biscay Bay, over the Coral reef and over little islands. Before this highway was built and Miami Beach was known to the whole world, it belonged to the grandfather of one of the biggest hotel owners of the present.

This man had a farm there and in order that he might market his product easier in Miami, he dug a canal to transport his vegetables. The farm is gone, the vegetables are gone, the island is covered with hotels and millionaires' estates, but the canal is still there and the vegetables transported on the speedboats are of another kind.

Gar Wood has a home with the canal (called Indian Creek) right in the backyard, but everyone knows what Gar Wood's business is.

Eastern people living in Florida go to Miami Beach in wintertime not only to enjoy the climate, but to be seen. They rent houses for terrific rentals. I don't know why, because they never stay there.

If they want to swim, they do not do it in their private swimming pools, because newsreel men are not there. They go to Miami Beach and use the cabana. I mention this because the cabana is a thing we should have in



*Cocoanut palms guyed with wires to withstand hurricanes.*

California. Imagine a Spanish building, mostly U shaped, two stories high. It is divided into forty single apartments usually a living room with a seaside door the entire width of the room like a garage and mostly furnished with wicker and rubberized cushions. Then there is a little dressing room where one changes into a bathing suit and lastly a shower bath with a rear entrance. People leave their palatial estates in the morning, and spend most of the day swimming and sunning themselves and for that privilege they pay \$250 a month rent for one cabana.

And then Parichy introduced us to many interesting people. One of them is Peterson, the Sherlock Holmes of Miami. You have seen his picture in the November issue, sent to you by our staff correspondent, and please, Mr. Editor, give credit where credit is due; those pictures were shot with my Leica camera by a 1905 Richard automatic timer, negative developed by Tropical Camera Shop, enlargements by Parichy.

While we were on the fourteenth floor of the City Hall (I mean jail), Peterson showed us around, cells and all. But like the proverbial postman on his vacation, I looked at his photographic department of criminal identification and otherwise. There on a table four times as big as yours I saw a conglomeration of cameras that would put Bond Street and the Camera Exchange in Hollywood to shame.

Everything from a 16x24 to a 2¼x3¼ was included, not counting aerial cameras, as Peterson shoots even the place of the crime from the air. To my disgust all that valuable equipment was covered with two inches of dust and Peterson, anticipating, and also because he is a good detective, said:

"All of these are obsolete. I shoot all my pictures with a one by one and a half. I have owned it for five years and it is a Model 'A' Leica. It needs a valve grind, a paint job, a



chromium job and a complete overhaul, but how do you expect it to look new, I carry it always in the same pocket."

And out of said pocket he produced a bottle of lamp black, a camel's hair brush, a six inch magnifier, a tape measure, a compass, a stop watch, a thermometer and last but not least the Leica that identifies all criminals caught in Peterson's net.

And so on the 9th of October, as our Pan-American Sikorsky Amphibian took off for Havana, Parichy and I were shooting each other with Leicas.

The great grandson of Admiral Dewey at the controls of the plane, Carl Dewey; Red, his co-pilot; Adams, the radio operator, my assistant and myself took off at eleven. Parichy followed our take-off with a speed boat and shot more Leicas. After taking altitude we headed towards Havana. Miami disappeared and we followed the Keys. It is a magnificent sight. The water was so transparent it seemed that one was looking down onto the prairie.

Thousands of little islands connected with coral reef are strung along the coast like a gigantic necklace. I took pictures through the window, but as the photographic visibility was poor, on account of the salt on the outside glass, I opened the rear hatch and started shooting. Remembering Elmer Dyer's stories of that terrible slip stream current and the blast of the propellers (war planes were not so fast as the ones of today), I expected to be blown out any minute, but the only thing that was blown off (Mr. Wyckoff please take notice) was my beret and I saw it tailspin, barrel roll, loop and spiral into the Caribbean.

But then Havana was not very far away. Havana meant Spain, Spain meant Basque country, Basque country is the land of berets, so I was only for a short time in danger of catching a cold. I knew a beret could be bought in Havana. I was saved.

This, my dear editor, concludes the first installment, if not of my working experiences, of the personal highlights that brighten those dark shadows of the West Indies.



The gorgeous Coral Gables swimming pool, which is really a big lake of fresh filtered water, Venetian in character.

### S.M.P.E. Meeting at Paramount

The West Coast Chapter of the S.M.P.E. held a meeting at the Paramount Studios on the 23rd of February which was largely attended by the engineers and their guests. The meeting was made particularly interesting due to the showing of the latest films made by specialists in the medical profession. These films are significant in that they show a distinct trend toward the use of films in teaching and particularly in medicine. It is of interest to note that these films were supervised by the doctors themselves, which makes them practical instructional films. Much could be said upon their technical perfection that compared favorably with the best in photography.

They were mostly synchronized to sound. The first film shown was a Technicolor picture made by the Welshay Company, under the direction of Dr. Maurice Kahn, of an appendix operation with all its details, and followed by another Magnacolor picture of an operation for the removal of a malignant tumor.

The films of Dr. Howard L. Updegraff showing several plastic surgery operations were one of the highlights of the evening. Dr. Updegraff showed by films a series of operations covering fourteen months on a young girl's face in which he practically remade the entire face after it had been terribly disfigured in an auto accident. In this film he remade the eyelids, made a new nose, remolded the ears which had grown to the head, planted hair from the head for eyebrows and replaced the skin of the face with other skin taken from various parts of the body.

Other films were those on bladder operations made by Dr. Elmer Belt; Dr. Losier dealing with dental surgery, and Caesarian operation films made by Dr. John C. Irwin completed the program.

Each of the films was discussed by the doctors who had made them. The meeting was presided over by Emery Huse and Dr. Donald McKenzie.

### The Old Home Haunts

By F. Colburn Clarke

There's a sound that rings in my ears today,  
That echoes in vague refrain,  
The ripple of water o'er smooth-washed clay,  
Where the walleyed pike and the black bass play,  
That makes me yearn, in a quiet way,  
For my old flyrod again.

Back to the old home haunts again,  
Back where the clear lake lies;  
Back through the woods  
Where the blackbird broods,  
Back to my rod and flies.

I'm longing to paddle the boat today,  
Through water-logged grass and reeds;  
Where the muskrat swims, and the cattails sway;  
Where the air is cool, and the mist is gray;  
Where ripples dance in the same old way,  
Under the tangled weeds.

Back on the old oak log again,  
Back by the crystal brook;  
Back to the bait,  
And the silent wait,  
Back to my line and hook.

I wish I could wade by the water's edge,  
Where the fallen leaves drift by  
Just to see, in the shadow of the ledge,  
How dark forms glide, like a woodman's wedge,  
Through driftwood piles and the coarse marsh sedge,  
And to hear the bittern cry.

Back where the tadpoles shift and sink,  
Back where the bullfrogs sob;  
Back just to float  
In the leaky boat,  
Back to my dripping bob.

Oh, it's just like this on each misty day,  
It's always the same old pain  
That struggles and pulls in the same old way  
To carry me off for a little stay  
By the water's edge, in sticky clay,  
To fish in the falling rain.

Back to my long black rubber boots,  
Back to my old patched coat;  
Back to my rod  
And the breath of God—  
Home—and my leaky boat.

### To Florida's New Hollywood

Max Stengler departed for St. Petersburg, Florida, on February 21, to shoot features and shorts for Kennedy Pictures. He will be absent indefinitely.

Raymond Cardwell is no longer a member of Local 659, International Photographers.



# Parichy Visits Columbus' Shrine

By ESSELLE PARICHY

Our Staff Correspondent Follows the Trail of the Freebooters and Conquistadores of the Spanish Main



*The Old Bells of Santo Domingo Cathedral*

World, and it was from here that Cortez, Balboa, Pizarro and Valasquez set forth in quest of other "El Dorados."

Here in this new capital of the Western Hemisphere was spawned an infant civilization made up of bold Cavalieri and raw Freebootery. In these turbulent years, when all the New World was at the threshold of an incandescent decay, these pilfering pirates cruised the trade lanes of the Caribbean to corral the golden hordes of Spanish galleons homing for Spain.

## Ply Humble Trades

After a time peace descended upon Santo Domingo when pirate and cavalier became brethren of the soil, garnering, in place of contraband, the riches of mother earth here in this tropical paradise. Cutlass and demicannon were replaced by plowshares and the harvest brought years of peace and plenty.

Women prayed at mass before vestal flames of thanksgiving, and once again ships sailed, unmolested, the windward passage of the Spanish Main.

Today, under the lazy Caribbean sun, her peaceful people ply their humble trades while Life moves at snail's pace in the lethargy of languorous days and mellow nights, fanned by the soft zephyrs from out the equatorial sea, but the gentle trade winds that are born in these tropical latitudes often grow to gigantic proportions bringing the evil forces and fury of hurricanes leaving in their wakes destruction and shapeless scars of nature's devastation.

## Productive Farms

I was in Santo Domingo shortly after the 1930 hurricane and the city reminded me of the ruins of war. But life must go on, and these Dominicans, despite their past misery, seemed happy struggling through their daily

life on the island of Haiti, in the West Indies, the city of Santo Domingo is the slumbering capital of the Dominican Republic. It was no doubt the verdured jungle beauty of this jewel of the Antilles that created in the mind of Christopher Columbus the dream illusion that here was the location of the bibled Paradise of Adam and Eve.

Where Santo Domingo stands today Columbus, in 1492, established a New World capital for Spain which he called "Nueva Isabella." The history of this capital is colored with carnal strife and turmoil of early colonization.

Her rambling ruins and bastions overflow with memories of great explorers. For a time all history centered around this capital of the New World. Her rambling ruins and bastions overflow with memories of great explorers. For a time all history centered around this capital of the New World.

The rural countryside and mountain slopes of this island republic abound with small but productive farms and world depression means little to these simple-minded folk who rely on the oldest law of Nature . . . live by the soil. Market places groan with rich fruits and succulent greens brought into town by the natives.

Here at the market places is where news and gossip are hatched from all over the countryside . . . as a matter of fact it is the only source of news and information that these humble blacks can comprehend . . . it is "market news" as it were and if one could but understand Dominican patois one could listen in on many an interesting tale of folk-lore and present day life of birth, death and taxes.

## Ancient Bells

The cathedral of Santo Domingo holds the most holy of shrines in the Western World. Within its bleak and unadorned walls the pulse of all Santo Domingo beats at this sanctified spot, wherein rests the mortal remains of Christopher Columbus.

The bells in the cathedral tower are hoary with age and have tolled out the destinies of these island people over centuries with melodious intonations echoing the faith of the Motherland from whence they came.

My shadow spread before me as I entered the cathedral from out the brilliant sunlight and paused in rev-

erence to the splendor that greeted my eye. I stood awestruck before this ecclesiastical shrine, this masterpiece of bronze and marble that man has conceived to commemorate the indomitable courage of the immortal mariner. Even though today there may still exist a doubt as to the actuality of Christopher Columbus' resting place, this assuredly is the spot where he was once buried and the Dominicans firmly believe still is.

Historians are of the opinion that after the death of Columbus in Spain in 1506 his bones were brought to Santo Domingo in 1536 along with those of his son, Diego Columbus.

In 1796, excavators bringing forth the bones of Diego, did not know of the presence of two tombs in the cathedral which led to the belief that these remains were those of Christopher Columbus, and they were sent to Havana and later to Seville for entombment.

## Safe From Prying Hands

In 1877 it was found that the true remains of the illustrious discoverer still rested under the cathedral at Santa Domingo, so at a cost of \$40,000 this shrine was built to hold this surprising discovery, and you will be informed by the Dominicans that beyond a shadow of a doubt here is the authentic resting place of the great sailor from Genoa.

Facaded by guarding lions, the moldering bones are encased in a bronze casket diased with glory and now safe forever from the prying hands of man.

The sun filtered through jeweled  
(Concluded on Page 18)



*Majestic bronze lions guard the portals of Columbus' Shrine at the entrance to the Cathedral of Santo Domingo.*





*In this exquisite sketch may be seen the fine Italian hand of Lewis W. Physioc, technical editor of the International Photographer. The beautiful balance and richness of detail is characteristic of this artist.*





Here we have the Universal people going after a court room scene with everything they have in the way of cameras, big and little lights, and a mike on the end of a forty-foot boom. Mickey Marigold caught the picture.



The camera crane—carrying also the director, newest and most startling innovation, is here seen in full action. Shot for the Fox organization by Anthony Ugrin.



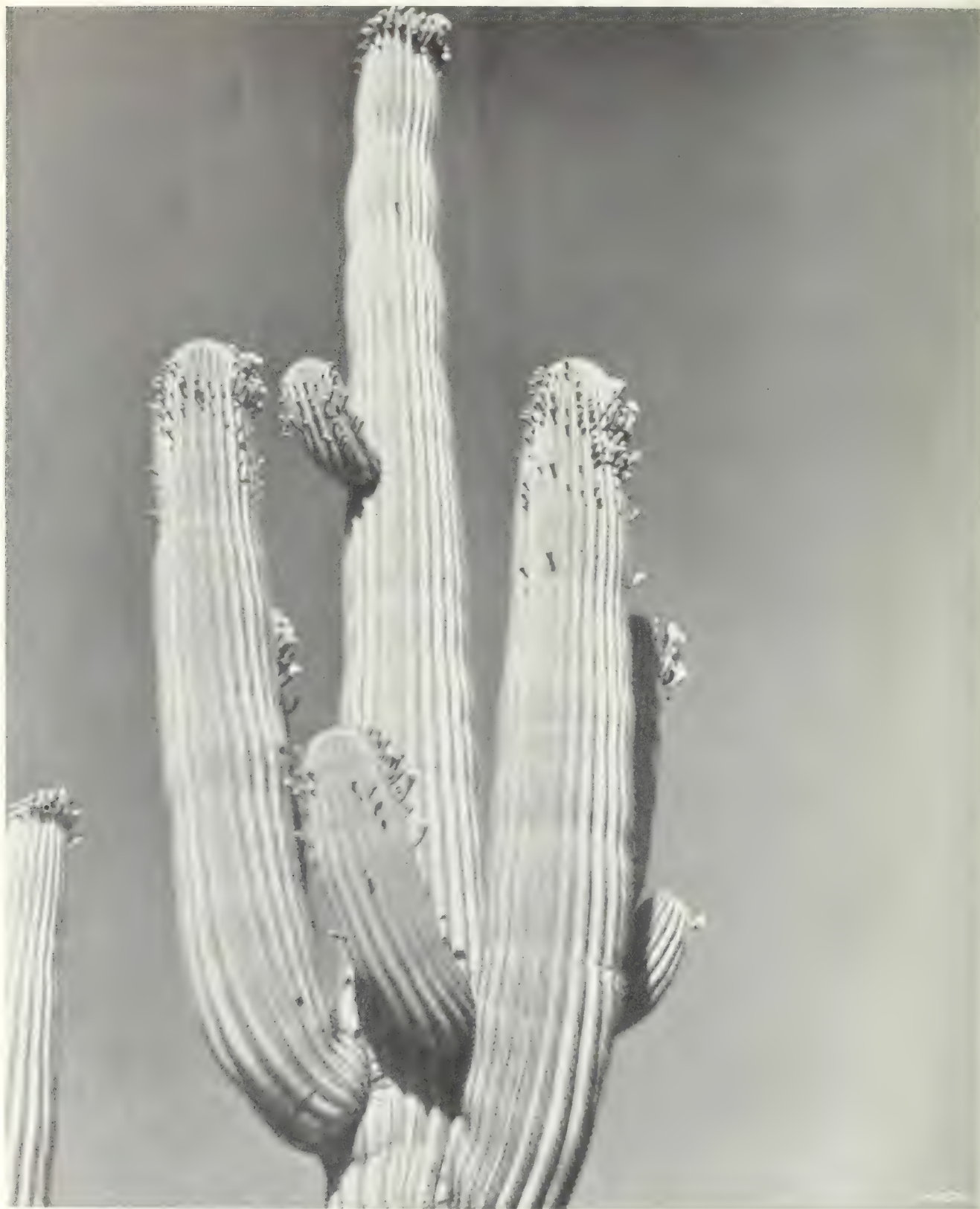


*At right is a clutter of gigantic cameras, mikes and what have you, all that we may get a sweet little love scene in a cozy corner. Shot by Alexander Kahle.*



*Perhaps they are not making movies just now, and Will is entertaining the neighborhood kids between acts. However, Cliff Maupin was there or thereabouts with his little camera and you may be sure there was a lot of other apparatus just out of sight.*





*We always think of Elmer Dyer as sailing around in a plane or a blimp or something, or trying to beat a parachute to a safe landing. But sometimes he holds still long enough to spy things nearer to earth and gets all their beauty into his box.*



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(Continued from Page 12)

windows in radiant benediction above the shrine, while the hushed prayers of the devout mingled with the vastness of the cathedral silence.

Depicting the various phases in the discovery of the New World are four bronze tablets directly above the bronze crypt, and as I gazed at them my mind seemed to be suspended between phantasy and reality animating the scenes of Columbus landing and blessing the virgin shores where now stands this magnificent shrine.

In the square fronting the cathedral stands the bronze statue of the intrepid explorer with arm raised in courageous gesture . . . the same gesture that kept alive in his crew the hope and faith to go onward, onward to the new world of his dreams.

It is the hour of parting, and as the sexton tolls the bells I take one last look at this cathedral with all its old-world charm and bid "Adios" to Santo Domingo . . . until we meet again.

"Hasta La Vista."



*The phantasy of Columbus landing and blessing the spot where now stands this magnificent shrine*

# LOST IN THE AIR

But the News-Reeler Makes Happy Landing Only  
Ten Seconds from a Crack Up—  
Just for the Public

By REED N. HAYTHORNE

*International Photographer, Chicago*

ON the memorable day when Col. Charles A. Lindbergh was to land in Mexico City after his non-stop flight from Washington, Rudy Kileman, an airplane pilot, and myself, a newsreel cameraman, took off from Kelly Field in San Antonio, Texas. Our final destination was unknown to us, but our first stop was to be the little town of Laredo, Texas, situated on the Mexican border, and there we were to receive further orders from my company.

After taking off from the muddy runway we headed southwest. I had a queer feeling something might happen, so I borrowed two parachutes from Capt. Odas Moon, then of Kelly Field, and more recently known as one of the pilots of the refueling ship for the Question Mark endurance flight.

I was employed by one of the large newsreel companies and it was my duty on this flight personally to pick up the film of Col. Lindbergh's landing in Mexico City. The film was to be transported to the border by plane and I was to take it from there to Fort Worth. In turn it was to be relayed by still another ship to further points north and east.

Neither of us thought when we took off in the pouring rain that the journey would prove so hazardous. Newsreel cameramen are optimists and

fatalists, or they would not follow this occupation of danger and daring. The trip to Laredo was just an ordinary trip and uneventful outside of the motor hood coming loose, when I had to crawl slowly out and fasten it down with a piece of wire. We landed in Laredo late in the afternoon.

## Follow the River

With night came a wire from my company telling me the film was to be transported as far as Brownsville and that I was to go there and pick it up from the pilot of the Mexican ship and that he was to land in Matamoras just across the border from Brownsville.

Early the following morning we were in the air on our way to Brownsville. It was foggy and several times we found ourselves over the border on the Mexican side. We were not following a compass course, but just the course of the Rio Grande River, which was visible only at intervals through holes that appeared in the fog. We landed in Brownsville near noon.

There I found my strongest competitor also with his plane. He had already crossed the border and was awaiting the arrival of the Mexican plane that was to carry the films thus far for his company. I could see at once this was going to be a race as

to which one would get his film first to the home office in New York, thereby "scooping" the other in getting it on the screen first. It was a case of pitting wits, and my ship was inferior to his.

Upon arriving at the landing field in Matamoras I found my competitor with a reception committee awaiting the arrival of the Mexican ship. To disrupt matters a bit my competitor advised me that his company had purchased the exclusive rights to the ship to carry the film for his company only. He added that they had put over a fast one on me in doing so. Feeling very downhearted after hearing this information I just waited to see the outcome.

Twelve o'clock came and everyone was getting a little uneasy.

Twelve forty-five—we all jumped as we heard the faint drone of a motor.

## Daily Deed

At 1 o'clock sharp the Mexican ship was seen to circle the field and land. It taxied up to us and my competitor asked if I would shoot a little film of him as he received the valuable packet which contained the picture of Col. Lindbergh's landing in Mexico City. This I did out of pure sportsmanship.

After performing this kindly deed I sat down on the running board of a nearby automobile in a very disappointed mood. After all persons had left the field and I was sitting there thinking of the severe call-down I was to get from my company the pilot of the Mexican ship approached me and casually asked my name. I answered and you can imagine my feelings when he advised that he had a package for me.



Upon sight of the package I seemed to get new life, as this was the one thing for which I was there and by the shape and size I was assured that this was IT.

I didn't even stop to thank the pilot nor ask him how it happened that he came in possession of the film. The only thing I had in and on my mind was to get to my ship as soon as possible and get on my way toward Fort Worth.

Rudy already had started the motor and upon sight of me was in the cockpit and ready to go. A very little conversation passed between us, but I learned my competitor had taken off fifteen minutes previous. It took us only a fraction of a minute to get into the air and on our famous journey and race.

The wind was coming out of the north at a considerable clip, and this of course cut down our speed. Our first stop was at San Antonio, landing at Winburn Field, where we left orders that the ship be fully serviced, and then went to get some supper.

While we were eating the wind gained in velocity until it became little less than a raging gale. It took me until 6:45 to make a decision that we should continue our flight. When Rudy was informed of this I thought it was going to take the entire police force to make him even consider it.

#### Chill Inside and Out

After he consented we lost no time in getting to the field and taking off on the last part of our journey to Fort Worth. It had suddenly become very cold and Rudy had added to his clothing for warmth. The sun had long since gone down and it was 7 o'clock exactly when we were in the air and over the city of San Antonio with all of its lights already on.

The people were just beginning to enjoy the shows and dances for the evening and here we were a long distance in the air, the cold and darkness, far from enjoying ourselves. As for myself I had borrowed a quilt to keep warm. I was dressed in a flannel shirt, a suede jacket, a sheepskin lined coat, my parachute over this and then wrapped in the heavy quilt, but with the propeller blast and my nerves on end I was far from being warm.

Climbing to an altitude which I judge was near the six-thousand-foot mark Rudy motioned that he would like to speak to me. After this short conversation I understood why it was that he was not very anxious to fly after dark. His instruments were not illuminated and he would have to fly entirely by sight with fuel enough for only five hours.

It was approximately three hundred miles distant to Fort Worth, and with a forty-mile-an-hour head wind the maximum 95-mile speed of the ship in favorable conditions made the flight a precarious one. All of this went through my mind and the trip became a miserable attempt at suicide. I thanked Captain Odas Moon for the loan of the parachutes; at least they were a little consolation.

Rudy informed me he was flying with plenty of altitude so the chutes would have ample time to work if we had to jump. This was indeed a pleas-

ant thought. We were in the air for several hours and I was no less than one degree from freezing when that same side of the hood again came loose and started flapping as before.

#### Fight to Keep Warm

This time I unwound myself from my quilt and started on my perilous way to the front of the motor. Upon reaching there I found there was no more wire with which to fasten it down. Of course this was a most enjoyable predicament, and after a consultation with Rudy I decided to make the best of it by sitting with my back resting against the V-shaped struts and placing one foot on either side of the hood in order to keep it from flapping to pieces, possibly severing itself from the ship, blowing back and injuring some vital part of the controls of the tail section.

It wasn't long before this grew old and I was almost numb from the cold, so I made my way slowly back to the cockpit. When it was reached it was as welcome as an oasis in the desert. This time I was a little more uneasy, so did not sit as a person ordinarily would, but wrapped in my quilt I squatted in the seat with my feet under me just as a monkey would.

I sat there nearly crazed from the terrible, monotonous, deafening drone of the motor, watching the hood flap up and down, ducking my head for fear the hood would at any minute come flying back and possibly hit me,

or with its force cut out some of the controls of the ship.

If this happened it would mean only one alternative—jump! All of these thoughts that were congested in my head made the trip most pleasant. My thoughts turned to those below and looking down I saw lights of many towns. Then I meditated on the enjoyment and contentment that reigned there; how lucky those people were.

I ducked my head again as the hood made a tremendous noise in its flapping. I was sure that this time it would succeed in coming loose; my hand went to the ring of the rip cord, I was rigid waiting for the crucial moment when I would get the chance to pull that little ring and end all the agony.

The film—I should do something with it in order not to lose it. I unbuttoned my sheepskin coat, placed it inside, strapping it to me by means of my belt. Having done this I felt a little better. The flapping ceased for a short interval.

#### All Towns Look Alike

Looking back at Rudy I could see he wished to say something. Upon leaning back to listen he merely asked me the time. I replied that we had been in the air four hours and fifteen minutes. No answer from Rudy. Glancing down toward the ground I found, much to my surprise, that I could count the lights of twenty-one towns.

(Continued on Page 22)



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Cameraman Sets New Record—Photographs Four  
Features in Shortest Month

A NEW all-time record, we believe, is set-up by Ernie Miller, chief cameraman for Fanchon Royer Productions, who, during the month of February, completed three feature productions of six and seven reels for Fanchon Royer Productions, and got well under way on his fourth, a serial for Nat Levine, "The Three Musketeers."

Pictures completed for his producers contract are "Her Re-Sale Value," "Velvet Vultures" and a Spanish production featuring Jose Crespo, "The Secrets of Monte Carlo." On "Musketeers" Miller had completed episodes sufficient in final cut footage to credit him with another full length feature completed within the month, and the shortest month of the year at that.

All the foregoing is in itself quite interesting, but it is really very important, especially to the producers, who realize and appreciate the value and saving of a cameraman, who turns out his work with snap and precision without sacrificing excellent quality.

Miller was seconded in most of this achievement by Reggie Lyons, and assisted by Joe Lyke and Monty Steadman. This is a great crew, and with the accomplishment of this record you can quite appreciate the highly complimentary remarks which were made to us by the official heads of the production companies for whom the pictures were made.

## M.G.M.

HAL ROSSON is photographing "Man of the Nile", starring Ramon Novarro and directed by Sam Wood. Rossion is seconded by Les White and assisted by H. Parkins.

"Hell Below" ("Pig Boats"), recently completed by Rossion is now on the release schedule at the laboratories, and promises to bring new honors to this cameraman.

OLLIE MARSH finished production on "Turn About" with Joan Crawford, and immediately entered into "Service", Clarence Brown's new production for M.G.M. Marsh is seconded by Eddie Fitzgerald and assisted by Kyme Meade.

NORBERT BRODINE started production of "Made on Broadway" under the direction of Harry J. Beaumont. Second is Reggie Lanning, J. Ivey, assistant.

PEV MARLEY has finished the Todd Browning production, "Rivets" and is taking a short vacation until his next assignment is made.

CLYDE DE VINNA in his last note to us says they are about to resume production activities as the long Arc-

tic night is drawing to a close. De Vinna writes some very interesting letters, but we can't understand why he neglects to tell us how he spent the long nights in Alaska. Maybe its none of our business, but anyway we can't imagine any guy (even DeVinna) sitting up all night with a shortwave radio set (when the nights are six months long).

CHARLE CLARKE continues to leap about on special tough assignments for the M.G.M. productions. Meantime, according to the big chiefs at the Culver City plant, Charley is turning in some swell material.

LEN SMITH returned from a special assignment in San Francisco just in time to drive to Caliente for the motion picture tournament (reported elsewhere in these pages).

## RKO

EDDIE CRONJAGER is the head man of the camera crew on the Wheeler and Woolsey picture, "In the Red." That title seems to apply to all of us these days . . . Helping Eddie are Harry Wild and Bob de Grasse, as seconds, and Charley Burke and George Diskant, assistants.

JACK MACKENZIE, the crafty Scot, upholds the traditions of his nationality—when there are no feature pictures available here he grabs a couple of comedies and draws first cameraman's salary, while at the same time gets a lot of laughs, doing one of the "Headliner" series. Eddie Pyle and Frank Redman as seconds, and Charley Burke and Harold Wellman, assistants. On the Harry Sweet comedy, "Shakespeare with Tin Ears", he had Eddie Pyle and Eddie Henderson as seconds, and again Charley Burke and Harold Wellman, assistants.

ROY HUNT shot the first few Ely Culbertson bridge series and got the real lowdown from the master himself. Now Mrs. Roy Hunt is busy out at Canoga Park; all the ladies are inviting her to their bridge parties hoping to get some inside "info." The second cameraman with Roy was Joe Biroc, and Jimmy Daily took good care of the assisting.

CHARLES ROSHER has been assigned to photograph the forthcoming Irene Dunn picture scheduled to go into production at any day now.

NICK MUSURACA finished his Western picture with Tom Keene, "Son of the Border", and then he shot the Culbertson No. 3. Nick's crew consisted of Harry Wild at the camera and Willard Barth and Dick Davol, assistants.

VERNE WALKER, in charge of the transparencies and special effects departments, returned from Wrightwood, where he and J. O. Taylor were shooting backgrounds for John Cromwell's forthcoming feature for RKO release.

PICTURE GOLF  
TOURNAMENTCaliente Attracts Hundreds—  
Many Cameramen Enter  
Contest

The last week-end in February brought the annual Divot Diggers Golf Tournament to Agua Caliente. Several hundred disciples of the Tee and Fairways journeyed south to participate in the big party. We were among those present, but will dismiss a report of our own performance by candidly admitting failure in our attempt to bribe the official score-keeper.

Time and space prohibits a listing of the names from the camera craft whom we met on the fairways (and at other more interesting places) at this popular resort, which is being brought back to deserved popularity by Mr. Joseph M. Schenck.

Thinking out loud, we form a mental picture of Len Smith standing beside us at a roulette table the night before the tournament opened, and as Len watched the little white ball on every spin of the wheel, he casually turned to us and remarked, "It goes down every time it never misses the cup."

Evidently Len carried this thought with him when he played his game the following day, because after starting Number 1 with a seven, Number 2 with a six and Number 3 with a seven, he finally came through at the 18th with a medal score so very low in the eighties that it was necessary to rush us across the patio at the clubhouse for an immediate stimulant. And just as we were hoisting our glasses of iced tea, there drifted to us from a group at a near-by table in post mortem discussion, "It goes down every time it never misses the cup." Whereupon, (thinking of our own game) we immediately choked to death.

## Lackey At Metropolitan

William Lackey Productions (Monogram) have taken space at the Metropolitan Studios, where they are producing "False Front". GILBERT WARRENTON, who has completed his third consecutive production for Paramount, temporarily leaves the latter plant to take over the cameras for Mr. Lackey on this Monogram feature.

## Educational Studios

DWIGHT WARREN, who has been the chief cameraman for Educational for many years, turned out several comedies at the Educational plant during the past month, and is scheduled to continue his fast program through March and April.

## Foy Resumes

Bryan Foy Studios in Culver City have been rather slow during the past month, confining their production activities to turning out a couple of shorts. However, they go into March starting another feature production for Columbia release, and have handed the photographic assignment to JOE VAL-ENTINE.

## Paramount

ERNIE HALLER is photographing Peggy Joyce in "International", which Eddie Sutherland is directing. Haller's staff is Guy Newhard at a Bennett, seconds; Eli Frederic and Tommy Morris, assistants.

DAVE ABEL has finished "P" and is looking up boat and train rules for a well-earned vacation. Ernie Lazlo and Jimmy Kirk crew, are standing by for a call. Virg Miller or Mel Stamper.

VIC MILNER is photographing Irene Dietrich in "Song of the South", which Mamoulian is directing. Second cameramen are Bill Mel Frank Titus, while the assistants are Guy Roe and Bob Rhea.

CHARLE LANG is shooting Maurice Chevalier picture, "A Night in the Tropics". Norman Taurag is the second. Lang's crew are Bob Pittack at a Pierce, seconds, and Cliff Shipps. Paul Cable, assistants.

ARCHIE STOUT is under the gun; he had only a couple of days to go to finish the picture, "Uncle Tom's Cabin", when the "flu" hit him plenty. Big BEN REYNOLDS was called in to finish the picture kept up the high standard. Archie, Russ Harlan and Bob were assisting Archie, and Ben and Buddy Williams as second, and Roy Worth, assistant.

The Charles Rogers unit has pictures in production here, M. KRASNER on his second feature, first cameraman, shooting "Below the Clouds", with Harry Joe Brown megaphone. Harry Hallenberry, very ably operating the camera. Irving Glassberg and Leo Hugh doing the assisting.

HENRY SHARP draws a swagman this month . . . the same old about Beer, so naturally the to go to a real brewery to shoot authentic scenes. Henry had no getting the acceptance of Lloyd Mayer as second and Lloyd Ahl Johnny Eckert as assistants. Murphy is directing the picture.

ARTHUR MARTINELLI is graphing the Halperin Brother picture, "Supernatural", which Paramount release. Victor H. is directing. Jocky Feindell and Eslick are the second cameramen while Eddie Adams and Al S. are the assistants.

FARCIOT EDOUARD, in charge of the transparencies department, and associates, Dewey Wrigley, Griggs, Al Meyers and Harold W. have been doing some excellent ground work on "King of the Jungle", "A Bedtime Story", "Internal House", and now are laying plans for the most intricate work they have been called upon to do, which is in the forthcoming production, "Eagle and the Hawk", obvious air epic.

GORDON JENNINGS, in charge of the miniature department here, returned from Mexico, where he and brother, Dev, were photographing scenes for some special sequence. Paramount feature, Dev, by the way, has been here in this department about eight or nine months doing nicely.

We bet you didn't know that Moore, that alert young fellow, Paramount camera department, the California State Champion, several years ago—ukelele player.



# BULLETIN

EASTMAN  
FILMS

ns, in Cooperation with The International Photographer

WHO'S WHO!

## Columbia

KLINE has returned from onna, location where scenes for "Sahara", story of the which is directed by Irving Associated with Kline in me very unusual and artis- ere F. M. Brown, second, Dawson and Jack Russell

WALKER has finished "Be- eas". Joe was called upon of those next to impossible s aquatic feature and, good hat he is, came through erand underwater stuff. Of ead to have some assistance, ably rendered by Andre second, and George Kelley hey, assistants.

ETZLAFF finished "The ar", which George Seitz and started right off on an- the which Ross Lederman is Soldiers of the Storm." On le Liar" Teddy had F. M. Anderson and Jack Russell rkers, and on "Soldiers of we saw Henry Freulich artistic ability while oper- amera; and Jack Anderson Walsh taking good care of the end of the camera staff. UST has just completed a ing picture, "Circus Queen hich Roy Neil directed. Op- camera was Vic Scheurich and Marcel Grand and Al the assistants.

LER is on his third assign- on quick succession, "Grass th Lambert Hillyer as di- re Barlatier, second cam- by Tobey and Don Brigham assistants.

## First National Studios

TO did such a fine job phing the big musical special ead Street" that the studio him right back on another "ld Diggers of 1933," which Roy is directing. Mike ond cameraman and Speed assistant.

GILL is in bad company yshooting Jimmy Cagney in "chool", which Archie Mayo. The second cameraman is Gene and the assistant, Wm.

AN TREES just finished Chatterton picture, "Lilly with Bill Wellman directing. ew was Lou Jennings at n Jimmy Van Trees, Jr., as-

AUDIO is smiling these s an assignment to his lik- "arrow Corners", starring nks, Jr., with Alf Green Al Green is the second and he is not related to Carl Guthrie is the as- ty already has his next as- that, too, is a "photo- ", George Arliss in "Vol-

TODD now terms himsel- tic cameraman, having photo- E. Brown in a baseball ew is photographing Bobby og golf. Frank Kesson is ameraman, Vernon Larson

COX is waiting for his next to get under way, a Kay ure which Lloyd Bacon

## Prison Photographer Learns About Eastman Supersensitive

CHICAGO, March 4.—Jack Barnett, roving cameraman for Chicago Daily News Universal News Reel, tells an interesting bit of news that occurred while on an assignment in Atlanta, Georgia. Barnett, while in the South on several assignments, received a flash from Charlie Ford to cover a prison break. Jack chartered an airplane—few over the prison—secured several air views of the fugitives attempting escape through the woods—landed the plane on the state highway paralleling the prison wall—set up his camera and photographed the juncture at which the break occurred.

A complete story a scoop and what a break for me, mused Jack. But he had made one mistake—one leg of his tripod had been placed on prison property—and the guards ushered him into the prison with his complete camera equipment... claiming confiscation of the photographed negative.

Instructed to develop a test strip of the exposed negative in the presence of the prison photographer, Jack finally succeeded in convincing him (by showing him the Super Pan label on an Eastman carton) the film had to be handled in total darkness. While the inmate photographer was developing the test—in total darkness—Barnett succeeded in transferring the exposed and unexposed negatives. Given an unconditional release, he sauntered out of the prison gates to his waiting plane, still in possession of his exposed negative; leaving the prison photographer the possessor of several hundred feet of unexposed stock.

will direct. Miss Francis requested Sid as her cameraman on this one. Associated with him are Tommy Branigan and Wesley Anderson.

MILTON COHEN, in charge of the camera department, says it's another Mr. and Mrs. Milton Cohen whom a local movie columnist referred to regarding a blessed event.

FRED JACKMAN, in charge of the Special Effects and Projection Background Department, has been at Catalina Isthmus shooting backgrounds for several Warner Brothers pictures. With him were Bun Haskins and Fred Jackman, Jr. While on Stage Five at Warner's Burbank Studio REX WIMPY, HANS KOENEKAMP, Willard Van Enger, Russ Collings and Ted Landon carry on during Jackman's absence.

## Hal Roach Studios

The Hal Roach plant has been going at full capacity during the month of February on "Fra Diavolo", the comic opera featuring Laurel & Hardy—(we can imagine it being comic, but by no stretch of the imagination can we—well, never mind). However, Dennis King has the major vocal roll in the production, and certainly we would not presume to take anything away from Mr. King because we've always been an appreciative audience for him. Two units have been working on this production, ART LLOYD at the cameras on Unit No. 1, and HAP DEPEW photographing No. 2. Depew is at this

## EDW. SMALL STARTS AT U. A.

"Waterfront" Photographic Achievement for Ray June Unusual Atmospheric Shots Are Sensational

EDWARD SMALL, who has written some important pages in the history of motion picture production, has launched his initial picture "I Cover the Waterfront" for United Artists. Months of preparation were given to the story and many weeks to the selection of cast and technical staff. Mr. Small's program for United Artists is both important and am-

## Fox Studios

LOUIS O'CONNELL has completed work on the McFadden production, "Trick for Trick", and is standing by for the next assignment.

LEE GARMES has completed the first Jesse Lasky production for Fox release, "Zoo in Budapest". Garmes has been assigned to the Lilian Harvey picture which is to be directed by Jack Blystone, and is scheduled to start any minute.

JOHN SEITZ is in production on "Adorable", with Janet Gaynor under the direction of William Dieterle. Seitz is seconded by Joe McDonald and assisted by L. Molino and E. Collins.

GEORGE SCHNEIDERMAN is working with Director Jack Ford on "Pilgrimage". Schneiderman is seconded by Curt Feters and assisted by J. Gordon and L. Kunkel.

Movietone City plant has two original Spanish stories in work. "Romantic Widow", directed by Lou King, is being photographed by BOB PLANCK. Planck is seconded by A. Arling and assisted by J. Farley and H. C. Smith. "Forbidden Melody" is directed by Strayer and photographed by HARRY JACKSON, who is seconded by J. Greenhalgh and assisted by R. Hoover.

HAL MOHR is winding up photography on the second Lasky production, "Warrior's Husband" with Elissa Landi. This is a travesty which promises thousands of laughs, and if that promise is made good, the answer at the box office is simple. Mohr is as usual seconded by Bill Skall and Irving Rosenberg, and assisted by B. Mantino and R. Surtees.

ERNE PALMER has been assigned to the next David Butler picture... starting date not definitely set.

ARTIE MILLER has completed the picture with Raoul Walsh, and is at present working on additional scenes for Von Stroheim's "Walking Down Broadway".

minute working on one of the Pitts-Todd comedies.

WALTER LUNDIN is busy taking care of the photography on one of the Taxicab Boys comedies and will doubtless draw a new assignment immediately this one is completed.

LEN POWERS, who has been working with Warren Doane at Universal for the past few months, has returned to the Roach lot, where he photographed a Charley Chase comedy under the direction of Carl Harbough.

CHARLIE LEVIN (the old maestro of the laboratory) has stood up nicely under the unusual rush, and screen results have been perfectly grand. Of course, it is scarcely necessary to say that when you consider the cameramen who are responsible for the work—always with Eastman Supersensitive Panchromatic Negative.

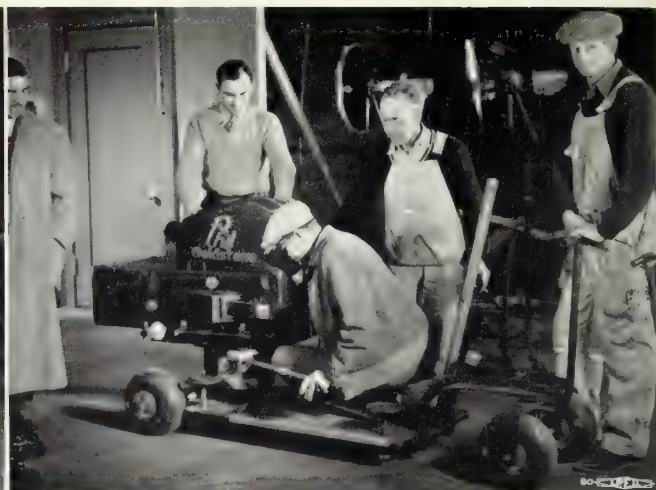
bitious. "Waterfront" was on of the best sellers of 1932 and was written by a reporter on one of the San Diego, California, papers. Immediately following completion of this production Mr. Small is preparing to start "Shanghai Gesture."

The story of "Waterfront" has for its locale the immediate vicinity of San Diego, as the name implies, along the waterfront. Its atmospheric demands call for everything any cameraman could possibly have in his bag of tricks, and Ray June has come through delightfully. We have been privileged to sit in with this cameraman during the projection of many of his dailies, and right at this point we'd like to pause just long enough to hand a bouquet of compliments to the technical staff at the Consolidated Laboratories, where the processing is being done for Mr. June and United Artists. June has brought the picture to the film and the Consolidated boys have brought it to the screen, faithfully and with charming simplicity. June's photographic recordings are worthy of the nicest things that we or anyone else can say about them. They deserve special praise and we are sincerely glad to add ours for whatever they may be worth. His work shows much thought and care, which is reflected in every single scene, and it is quite evident that he has tried to make every shot the outstanding photographic incident or feature of his production.

Associated with June is Stewart Thompson operating the camera, with Hal Carney and Ellis Carter assisting.

HARRY PERRY was assigned to a second unit for some special work, and turned in results harmonizing pleasantly with the general key attained by June. Associated with Perry on the second unit was Jimmy Hackett.





## NEW DOLLY

Left—Phil Goldstone's Low Dolly, built for Majestic Pictures. Cameraman, Ira Morgan; Assistant, Harry Marsh. Right—Dolly in position for low angle shots. Photographed by Art Marion.

## LOST IN THE AIR

(Continued from Page 19)

This was puzzling and I asked the pilot if he could distinguish the towns by the lights, thereby telling where we were. Looking down, and without much enthusiasm, he advised they all looked alike to him and that he didn't know which was which. That meant only one thing; we were lost in the air!

We did not have any equipment with which to make a forced night landing, such as flares, wing lights and other emergency landing lights. Fuel getting low, hood flapping, lost in the air; it was all just like a show to me.

Soon it would be over and we would pass out just like the others after the climax had taken place. But so far the climax was undecided, and the only thing to do was wait and see it through.

After flying in silence for a short distance Rudy again wanted to speak to me. This time he nearly capped the climax and brought the show to an end, as all he said was that he couldn't jump until I did.

A great force almost compelled me to stand up in the cockpit, dive over the edge and pull the rip cord, leaving the rest to luck, as there was no way of telling where we would land if we jumped—in tree top, house top, telephone wires or some other object that might possibly cause instant death.

It was agreed that if we jumped we were to go to the Western Union office in the next town; if Rudy arrived first he was to wait twenty minutes and if I didn't show up to get a car and comb the country for me. In the event that I arrived first I was to notify the townspeople of the disaster and have them go and find Rudy; I to continue on my way to Fort Worth with the film by the quickest route.

## Worse Than Nightmare

After this consultation my nerves became a little shaky and it was with all the courage I could muster that I managed to stay with the ship. Rudy

again asked me the time. I informed him that we had been in the air four hours and forty minutes. No answer came from him. A little silence from both of us, more noise from the flapping of the hood, more ducking, and every time I ducked I uttered a prayer.

Upon another questioning from Rudy I informed him the time was four hours and forty-five minutes. This time I could scarcely hear the exclamation of "Oh, God!" from him. The whole trip now was assuming the aspect of being worse than any nightmare I'd ever had.

Two people up above the earth with their lives hanging by a mere string, that string about to cut loose and end the story of two lives that were trying to serve the public by giving them the world's news in pictures almost at the time it happens.

Five minutes later when informing my plucky pilot that the time was four hours and fifty minutes, a small light beacon far in the distance flashed by my eyes. Rudy had seen it almost at the same moment and this time he changed his exclamation by drawing out

"J-E-S-U-S C-H-R-I-S-T!"

After straining my eyes the lights of Dallas and Fort Worth could just be seen shimmering in the distance too far to calculate. The beacon flashed by again, and it certainly was a sight for sore eyes, taut nerves that were about to pop and two men that were going through a living hell in order that they might serve their public.

The lights were fairly visible a few moments later. I looked at my watch and we had been in the air four hours and fifty-six minutes.

## Five Hours Are Up

Dallas looked as though it might be a little nearer than Fort Worth and in going there we would not have to fly over the city to get to the field, as we would have to do if we tried to make it to Fort Worth, thereby possibly eliminating a catastrophe which would mean certain death to us and

probably others if the fuel gave out directly over the business section.

I informed my pilot that the most plausible thing to do was to try and make it to Dallas rather than chance it to Fort Worth and, anyway, if we crashed it would bring the film nearer to a city. He asked how he could determine the landing field at Dallas and I answered that it could be sighted by a large red light which was placed on a tower.

It was now exactly 12 o'clock, which made five hours we had been in the air, and that was the limit of our fuel. Dallas was still a short distance ahead and a faint red light was scarcely discernible slightly to the left of the city.

Rudy realizing the value of saving fuel as much as possible, put the ship's nose slightly earthward and directly at the red light which glared with intensity.

My nerves were losing their hold and I was getting frantic as now the race with my film competitor had ceased and it had become a race with Death—that greatest competitor of all—Death, which wins every race in which he enters and sometimes wins before many laps have been completed.

The time was twelve ten; we were fast losing altitude and the red light was drawing nearer. At the altitude at which we were now flying a parachute was useless so throwing off the quilt and unbuckling my parachute and laying it on the floor of the plane I was ready for the inevitable climax of this story.

It seemed as though by this time it had gone just to the crucial point where I didn't really care and was not worryng. It seemed I was to pass out of the show as others had done and also that this was the last race in which I would participate.

The red light was now very close; we were about to see the race ended with ourselves as victors. If we could only make it. I prayed as I never prayed before. Would the gas hold out?



(Continued from Page 19)

The light seemed to have a peculiar glow. Within a few hundred feet of it and our journey's end I suddenly grew frantic again as I noticed it was no more than a fusee on a railroad track.

#### Just for the Public

My next thought was to jump. There was a possibility that if I jumped the film would at least be safe as the fall would only be some seventy feet. We were soon to see the finish of the show. Upon seeing that red light was only a fusee I immediately stood up in the cockpit and motioned Rudy to zoom upward that we might not hit any obstruction that might be in our course. He did this at the moment I motioned.

The ship was now following a dizzy path and I could realize by its movements that my able pilot was fast losing his senses; his nerves were almost at the breaking point. The plane was tossing now as a feather in a storm and with it was myself and the pilot that were nothing more than human bodies beyond all power of reasoning from the exhaustion of our race and journey "just for the public."

It was about this time my eyes rested upon something that resembled a field. Pointing it out to Rudy I asked him to try to make a landing. We were slowly descending and within twenty-five feet of it and Rudy started to throttle the motor to prepare for landing when suddenly my eyes caught a glimpse of something that did not look too inviting. After straining my eyes a little more I suddenly became aware, much to my surprise, that it was only water.

Realizing this I stood up suddenly in the cockpit and motioned Rudy to zoom once more into the air, which he did without hesitation. The motor puffed and spit back once. Were we at last to see the end without gaining our destination?

The motor spit two or three consecutive times and I was sure we were going to crash.

#### Wait for Crash

I remembered what my pilot had said about not jumping until I did, so now I was determined to stay with the ship. With this thought I again looked down and saw several large buildings we were passing just to our left. These could not be mistaken. It took no time for me to inform Rudy these were hangars and that we were now over the field.

The plane now was past the field, the motor cut once more, twice, picked up again and then again it cut out and just as we were banking around for a landing it cut out and stopped dead still. With a dead stick my pilot banked still further around. Our speed was gone and the field was a short distance away, too far for gliding in to it. He started to pancake down. I could not look down. With my head inside the cockpit I sat there and waited for what might happen.

It hit—a terrific blow and didn't seem to roll a foot. My head hit my knees, which were rigid under my chin and the blow stunned me for the moment. It was over, and I was glad of it.

I raised my head slowly and peered over the side of the cockpit to find that we really had landed. With the realization of this I jumped out and as I landed on the ground a number of huge lights flashed on and glared into my eyes. I had run some hundred feet when the thought of Rudy being back there in the ship came to me.

Returning to the ship I looked into the cockpit, but couldn't see Rudy. There was no answer when I called the first time, but the second time there was a faint answer from somewhere near the tail section. Back there I found Rudy flat on his back. He asked me to please go away and let him enjoy a few moments with good old mother earth.

We delivered the film and with it the responsibility that it be carried further northward by someone else, "Just for the Public."

#### Union Projectionists

Jack Hare, Publicity Manager of the Filmarte Theatre, sends in notice that the following theatres are now employing union projectionists: Filmarte, Carmel, Stadium, El Portal, Paramount (Hollywood), Vista, Beverly and Apollo.

#### A Pioneer Goes On

In October, 1911, David Horsley with his brother William came from New Jersey to Hollywood to establish a motion picture studio. At this time Brother David was head of the Nestor Company, an up and coming organization, already a producer of headliners in the east.

Accompanying the Horsleys was Al Christie, Tom Ricketts and Milton Fahrney. They had to work quickly, for there was only \$2,500 between them, so they came direct to Hollywood from the train and, without further delay, leased the old Blondeau tavern and barn. This stood at the corner of Gower and Sunset.

The new company got right down to work, the first picture made being "The Law of the Range," directed by Fahrney.

In May, 1912, Universal took over the Nestor studio and David Horsley opened a studio on Main Street, where he achieved his greatest successes.

He was one of the true pioneers of the motion picture industry, a maker of cinema history and a man of vision who, even in the dawn of motion picture evolution, saw the greatness to come.

The International Photographers extend to the deceased's family their profoundest sympathy and condolences.

## Williams' Shots

### ANNOUNCING

that our laboratory capacity has been increased 400 per cent to adequately meet the demands

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To the unknown maker of this cave drawing goes the honor of being the first person known to concern himself with the problem of making pictures move. This drawing is in a cave at Altmira in Spain, and was made some 25,000 years ago by a Cro-Magnon of the Later Paleolithic Period. The photo is ours through the courtesy of Will Day of London, and may be seen in the Motion Picture Collection of the Los Angeles Museum brought together by Earl Theisen

(Continued from Page 7)

"Out of the transmitter I finally made a receiver on the 2nd day, and could hear GCYP—I knew the Lord Talbot was close by his signal strength. That night I am on watch and see the ship's light at 7:20."

And Peter Redpath experiences the emotions of a lifetime in the following words:

"That evening Jerry Altfilisch sighted a light whereupon everybody ran for something to burn in order to attract attention. Much negative was lit and oil flares were made—I ran up on hill and set off our last remaining red flare which was sighted by the Lord Talbot. We gambled our all away just on the chance they had seen us—and won. Thank God."

Captain Watson, standing on the bridge of the Lord Talbot, displays real intestinal fortitude by not heeding a wireless message the owners of the Lord Talbot have sent him, advising him that he has done everything humanly possible in his search for the eight unfortunates forced down on their attempted span of the Atlantic. . . . Captain Watson has been advised by his superiors that he has not an adequate coal supply to continue his search, but Captain Watson for once refuses to heed orders. . . . Captain Watson is a man! . . . a leader of men! . . . thus Alex Main, first mate of the Lord Talbot continues to scribble in his little black book:

"10 P. M.—One of our firemen, John Falconer, who has been in the wheel-

house with us sees a light on our Starboard bow. The Captain being in the chart room making out courses for sends me aloft to the crows nest to work the searchlight. I just get nicely placed in the crow's nest, get the searchlight underway, when I see a red flare, it is also seen from the bridge. The captain sends word to the chief to open out the throttle. We bore through an ice field about 8 miles broad and 50 miles long. After getting inside the ice field, we proceed to about 200 yards from the shore, launch small boat and proceed to scene of wreck. Find landing is too difficult to land. It is great to hear those poor 8 souls shout to us."

And now, Peter Redpath opens his little diary and pens the last chapter in his book of memoirs—an ending of high adventure . . . a happy ending:

"The Lord Talbot, playing their searchlight on the short, put off their boat in charge of the mate, Alex Main, and came toward the cove in which our ship lay and which offered the best shelter, but which was full of huge bergs and a dangerous place to be.

"Alley and self were on the rocks awaiting news. Luckily for everyone we spoke the same language and advised them to delay landing until the our night work. He rushes on deck on hearing a light on our Starboard Bow, rings her down full speed. We now all see this light. The Captain next morning due to the heavy swell running—having previously answered

in the affirmative their question as to our health. After a few welcome words were exchanged, Alex threw us a tin of cigarettes, which unfortunately fell in the water, and put back to the ship until morning. We spent a cold and restless night but much happier in our minds than the previous night. Next morning off the blast of the whistle we commence to carry our stuff down to the cove, to be met by the mate and crew who helped us in every way possible. There were none happier than the eight cold and weary persons who clambered aboard the Lord Talbot Tuesday on Sept. 13th, to be greeted by Captain Thomas Watson."

Aboard the Lord Talbot, Norman Alley, newsreel ace of another day now past, but still an ace, writes finis to his diary . . . Norman Alley . . . Knight of the Celluloid . . . Norman Alley . . . newsreel cameraman . . . adventurer by calling. . . . Just another newsreel cameraman . . . just a newsreel cameraman completing an assignment . . . an assignment well done . . . no matter how dangerous . . . no matter how exacting . . . always grinding away behind that magic box entrusted to him . . . like any other newsreel cameraman . . . no glory . . . just plodding ahead . . . batting away on a long roll of celluloid . . . recording, ever recording on that strip of celluloid . . . just like any other newsreeler . . . never squawking . . . an unseen army of adventurers . . . Men . . . real men . . . those newsreelers . . . Norman Alley . . . Knight of the Celluloid writes finis to a diary of adventure . . . to one adventure . . . but ready for another. . . . Look at the last page of the simple tale of a man:

"We are fortunate indeed that such perseverance was shown by Capt. Watson in continuing his search even after having been directed to resume fishing by his employers. Too much credit cannot be accorded the seamanship of the entire crew in coming through the dangerous ice pack to effect our rescue."

Our tale is ended! . . . to us it seems like the unmasking of a handful of men . . . it seems like a tale of men playing with adventure . . . like we used to read about back in the good old days of boyhood . . . we have met these men, many, many times in story books . . . here are a few who have stepped out . . . who are real . . . who live among us . . . and two of them are newsreelers . . . Norman Alley and Jerry Altfilisch . . . Newsreelers . . . mind you . . . men we know exist . . . but about whom we know so little. THE END

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*Architecture of the coming World's Fair is to be different—we say it is! Charles Gies of Local 666 photographed this to prove it, and he pulled a good photograph too.*





*Jos. A. Valentine brings us still another shot of the ever-entrancing Grand Canal in Venice*



*Ramon Freulich strolls in among a group of our California canyon oaks and brings away this charming shot.*

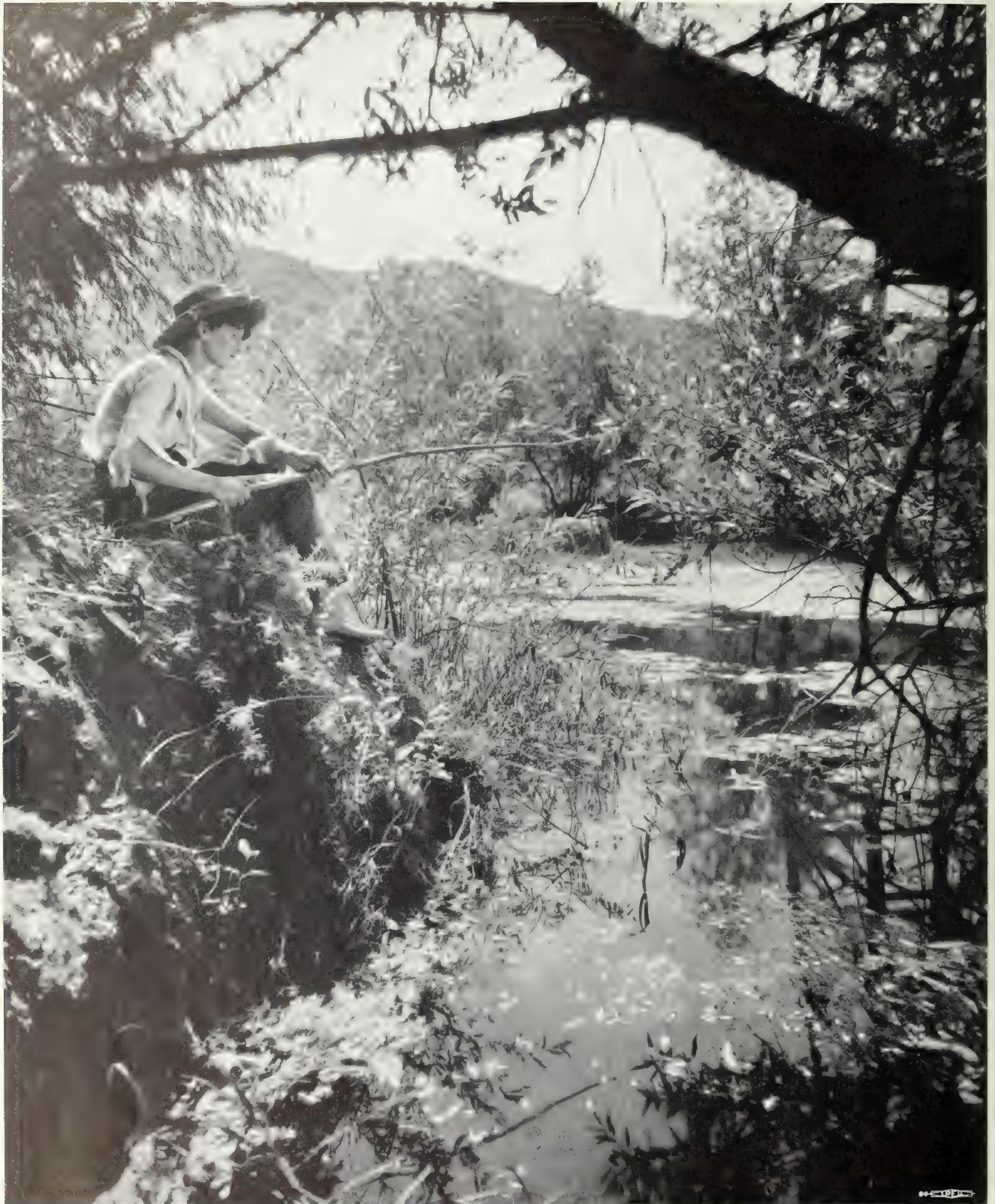


*George Hollister, prowling  
around among  
the uncovered  
ruins of Pompeii,  
discovered these old mills,  
and brought away  
something of their beauty  
of outline and  
surroundings.*



*And right here, looking  
over toward Clover Field,  
Art Marion catches the  
frost on the pumpkin and  
the fodder in the shock  
in a way that warms the  
cockles of our star-  
spangled hearts.*





*Here we have the beloved Huck Finn doing his stuff. There may be scum on the placid water, a swelter in the air, and a mud-turtle just around the bend; but to the camera's eye all is beauty. Gordon Head clicked the shutter.*



# NEWSREELERS' DOPE SHEET

By RAY FERNSTROM

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In addition to our "Newsreel of the Air" your scribe was invited to act as M.C. on a couple of "Hollywood On the Air" broadcasts. Did you hear them? One was "Newsreel Night" and the other the "King Kong" program.

These programs go out from here all over the country so I hope you liked 'em. Keep listening and maybe us newsreelers will be on this one again and get the old gang another break, in recognition, which the newsreel boys need and deserve. You can all thank Mr. John Swallow for letting us be heard the nation over and also the chap who wrote the continuity, Russell Birdwell.

You boys who heard these, please drop Mr. Swallow a line and let him know how much we appreciate such recognition; and maybe the Academy awards committee will be in a mood to remember us next time.

I reproduce here the speech of President B. B. Kahne, of Radio Pictures, which he made over a coast to coast radio hookup on the "Hollywood On the Air" program "newsreel"

night. I am sure all newsreel men will be pleased to read this tribute to our clan from this esteemed head of one of the industry's great organizations:

## B. B. Kahne's Speech

At dawn on May 20, 1927, I stood in the rain with a small crowd at Roosevelt Field, Long Island, awaiting the memorable and thrilling take-off of Charles A. Lindbergh for Paris, France. As Colonel Lindbergh, then a captain, piloted his tiny monoplane down the mud-soaked runway, I saw a Pathe news cameraman standing beside his camera at the treacherous end of the runway. It had been at that point two years before that Captain Rene Fonck had crashed his giant plane, causing the tragic death of his two companions. Colonel Lindbergh's plane, almost out of control due to the heavy mud, swept at lightning speed by the daring young Pathe news cameraman. Apparently this newsreel man had given little thought to his own safety; his task was to get the best and most thrilling picture of the historical take-off on the first transatlantic flight from New York to Paris.

Observing this tableau I realized in a small way the dangers that walk beside the newsreel cameraman as he goes about his daily work. These dangers and hardships are faced and endured for only one reason: That picture-goers everywhere may see the actual news happenings of the day.

The newsreel cameraman plays an important part in our daily lives. He is to us a living, breathing page from modern-day history. No theater screen is complete without the newsreel! The humblest newsreel cameraman is just as important to our motion picture industry as the Hollywood cameraman who photographs Constance Bennett, Greta Garbo or Ruth Chatterton.

I salute the newsreel cameraman!

\* \* \*

We thank you, Mr. Kahne!

\* \* \*

The night we went on the National Broadcasting network my old partner and sound man of Paramount News days, Les Norman, sat at the controls away back in New York at WJZ. He says he jumped six feet on hearing his old drinking partner of South American days because he hadn't heard a word about it and I didn't know he'd be on back there at that time. His letter surely brings back memories of our year and a half together. Have you still got those native drums, Norm?



*Ray Fernstrom at Mike*

## FILTER DOPE

Last month I gave you some dope on a new filter combination of the 23A and 56. This is not recommended for Eastman film and, when used on Dupont, should be on when you focus.

The old Aero 2 should be on your lenses all the time and will help on some of the faces you have to shoot. Take it off only when the light gets too bad.

Why, oh why, must we newsreelers mar the beauty of our lady subjects in some of the closeups recently seen on the screen? And, fellers, it's such an easy job to slip on a filter and a diffusion disc. Surely there is time on some of those shots for this. Many of your interior shots can rival studio photography if you would only try that disc advice.

Eastman has a nice new ¼ diffusion disc that you can use with excellent results on all closeups and group scenes of personalities. Remember, though, to focus sharp without the disc, then slip it on in front of your lens. If you have a lens shade a piece of the old film can tape will hold it in place in front of the ole glass eye. The lens shade, if not over two inches away from the front of the lens, is just about the right distance to give you proper diffusion. For less diffusion set it closer to your lens. Those Akeley shades on the ole two-inch lens should serve the purpose well.

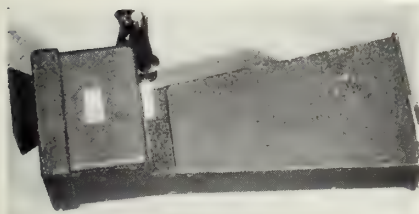
If after trying and adopting the use of the diffusion disc and filter, (Aero 2 for all around work) you wish to improve on this, add the use of a couple of light folding reflectors and you will see a marked improvement in your closeups of famous personalities.

Several of the boys have asked when not to use filters.

Filters help but little on street scenes where no sky appears in your picture or when you are working in the shade or where you have mostly green. Let me again mention the good old Aero 2 for all around filtering and the 23A for all air shots. Then if you want to add one more, and the perfect one for closeups where you want to wash out your background, the 5N5 which combines the

*(Continued on Page 33)*

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# SIX SIXTY SIX

## The Newsreel Cameramasters of the Windy City Are Enjoying Their Fiercest Winter—The Sassiety Reporter Says Good-bye—Palm Trees versus Blizzards

### In Focus—In Spots!

THE mailman what is poundin the beat into my joint has been havin one swell time readin the postcards aimed my way—so's I been gittin one big har! har! out of them. . . . Seems the story goes like this!

Every one of them guys what hails from around the Middle West every time they packs up their groan boxes and shoves off for the southland or to the tropics why the minnit they arrives there and sees the palm trees and gets sunburned and drinks the real McCoy they gets down thataways, why right away they swells up with sentiment and they gets homesick.

At least it seems so. Then what happens. Well, they all goes out and buys a lot of fancy postcards of palm trees and starts shippin them up this-away. Well, this month my postman drags in cards from Florida from Roger Fenimore and Urban Santone. And the picture shows palm trees. Then along comes Bill Gerecke from Chile with a card showin a picture of people standin around in a park of palm trees. Then John Herrmann has to announce he is sunnin hisself in Mexico on a fancy picture postcard showin they's got palm trees in Mexico, too.

Well, sir, mebbe the first disease that bites a guy the minnit he hits the tropics in the winter is to rub it into them northerners on how swell the weather is where they is gettin their breaks. Anyhow, none of them guys seems to be original. At least on the cards they sends to this department. Always, "The weather is swell, having good time, the liquor is good here, wish you was here!"

### Braggin About a Blizzard

Well, well! It ain't jealous I'm a bein, but since them guys ain't sent me their forwardin address I'm gonna use this space here to inform them about a little braggin I want to do about where I'm awinterin this season.

I'm vacationin (?) up here in a town they calls Chicago with a whole gang of tough newsreel hombres what likes their winters raw . . . and cold . . . and without sunshine what burns complexions of dainty film grinders . . . and where the wind howls kinder heavy enough so's you kin trot out

By the Sassiety Reporter  
As Told to

FRED H. FELBINGER

that swell benny from the mothballs.

Youse guys down there in the tropical sunshine is snickerin as you reads this, ha? . . . Go ahead, but now's my turn. While youse is sittin there sweatin addressin them silly postcards of palm trees to us birds up north here you is missin the time of your life.

We has just had the biggest and swellest blizzard what ever stopped traffic in the Windy Burg swirl down on us. Yes, sir, real honest to goodness snow blown right down your neck, stackin up in drifts eight feet high . . . and cold.

### What a Storm

Why, man, my noise ketcher Robertson had ice sickles hangin from that brand new mustache he is grown on his upper lip. And all them 666

newsnoopers was out in it makin scenes and tryin to clean the snow out of the lenses so's they could continue to shoot.

Jackson Boulevard and Mich. Ave. was so snowed down you couldn't see your hand afore your face. And there I sees Charlie Geis a shootin all dressed up like a German dachshund with the funny headgear he had on his bean.

And down the line I sees Ralph Saunders tryin to git the Pathe truck out of a snow drift with Tony Caputo atop yellin like a bull to be careful less he skid off with the camera.

Up in Lincoln Park motorists think they is got another statue next to the one of Gen. Grant, but it's Jack Burnett froze to his Akeley while trying to get an exposure between blows.

Boy, oh, boy! What a storm! Best blizzard in a decade. And youse sissies down South roastin to death. Well, mebbe youse guys was drinkin good stuff, eh! har! har! The blizzard happened on Tuesday. That's onion soup day over at Ches's Place, and you know Ches hisself is on back of



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the bar every Tuesday Night in person.

So after gittin the ole face wind-burned by the blow we trots into Ches's, shakes off the snow, unbuttons the galoshes and sops up a couple of nice hot bowls of onion soup . . . and a couple of Ches's sniffers . . . and hears a couple of Ches's yarns.

Allatime while you guys aint got nothin to while away the time with down there in the tropics except sit there and address silly postcards of palm trees to us northerners what still kin take a old-fashioned winter and like it.

#### Rare Old Fireman

Say, Fenimore, Santone, Gerecke, Herrmann, if youse reads this send on your addresses and I'll send youse a couple real view postcards of a blizzard like you used to enjoy when you was a kid.

I can't send you any photo cards of Sloppy Jo's bar in Havana with people a'sittin at the bar drinkin Dycheery cocktails, but mebbe I kin dig one up of Ches sloppin up the bar while he is tryin to learn to mix up a "Fireman's Shirt"!

Youse guys auto see Ches amixin them "Fireman's Shirts." His stummick shakes twice as hard as the shaker in his hand, but the drink is tol'able. . . .

Anyhow, if youse guys tire of tropics, of palm trees, drop in on us birds up here in Chi. We got blizzards, onion soup, Ches and Fireman's Shirts.

SIX-SIXTY-SIX



#### A Quiet Month

In the quiet month of February around Chicago. The million dollar nite blaze of the grain elevator . . . in twenty below zero and the following Knights of the Celluloid freezing faces, nipping fingers, gettin frost-bitten feet; Tony Caputo, Martin Barnett, Sid Stearn, Jack Darrock, Maurice Hare, Virgil Bowers—all sufferin so's a couple ten million could sit in theaters and thrill to a minute and half of fire scenes . . . shot in twenty below . . . camera cranks freezin so tight the boys had to thaw out the boxes over improvised fires to git the next scene. I'm holdin out on one name of the above heroes . . . Jack Barnett . . . reason bein Jack showed up in a fur lined flyin suit and only froze his face . . . so I cant make a hero out of him with the rest mentioned above. All I kin say is Jack Barnett wuz mighty cold . . . remember he wuz dressed warmer than them other crankin' hombies.

The new Union Office . . . with the boys gittin a thrill walkin in a high class reception room . . . private office for our business agent, Bill Stafford, and Miss Braun. Jack Barnett agin gittin his nice little fire wagon car cracked up . . . it's a complete wash-out this time and Jack shoppin for a new model. Pretty good this one lasted him eggsactly four months.

And Emilio Montemuro helps kill the depression for the auto magnates by buying a new little puddle jumper with a rumble seat. . . Ralph (Bull) Philips up and out of bed directing activities in the Action Film Laboratories wearin a pair of old-fashioned flannel pajamas.

What in the world has happened to Charlie David? . . . Jack Barnett and Floyd Traynham are keepin themselves busy making shots of each other in action. . . . Is Charlie Ford plannin to make a release that finally glorifies the newsreelers? . . . And occasionally I spies Charlie Ford out on Red riots in person . . . the last of the Eymo experts on news coverage.

Didja see that little news feature of ice boats racin at Oshkosh in Fox Movietone . . . minute of film slidin on the screen of your theatre? But it didn't show Eddie Morrison goin through the ice up to his neck . . . makin it . . . or his noise ketcher, Phil Gleason, gittin a beautiful shiner when one of the ice boats socked him as it sailed by sixty milesper.

SIX-SIXTY-SIX

#### Sassiety Reporter Passes

And with the above we fold up our typewriter and spell "Finis" to the Sassiety Reporter. . . . I want to thank all you guys for your tolerance all these years in really glancin over this collum. It's been a awful lot of fun watchin you, writin about and pickin on you; havin you read this baloney without up and bustin me in the nose sometimes; but as I said, it's all been in fun.

Sometimes I said a couple of words about studio men, about commercial and industrial men, but if most of you been followin this tripe of mine you

probably have noticed I leaned jest a bit kinder toward newsreelers, the **un-hung heroes of the cinema-crafts**. That ain't because I am one of them; maybe I am (I freely admit I am one of the lousy ones gittin by), but no foolin, I have worked with these baboons nigh unto eleven years now . . . and I have learned to love them and their kind.

God bless every baboon of them. . . . Mebbe they ain't all goin to heaven, but I betcha when Gabriel blows the last trumpet the whole mess of them will be fightin' each other . . . friendly enemies to the end . . . for a better position for each respective reel they represent . . . gittin the last authentic record on celluloid of the last authentic event the bards have so freely prophesied in them bibles, them newsreelers pick up in hotel rooms to place under the highballs they mix. . . . So's they dont git rings on the dresser of the hotel management. . . . Your Sassiety Reporter salutes you and says, "Waynos Notches!" (It's supposed to be Spanish; heard it on the radio wunst; don't know the meanin of it, but it sorta sounds romantic . . . or sumpin' to yours trooly!)

—RED FELBINGER.

#### The Wings of 659



Roy Klaffki, commodore of the International Photographer Esquadron, reports that the squadron now boasts the following named active flyers: Mickey Whalen, Perry Evans, Dewy Wrigley, Hal Mohr, Lloyd Ward, Wm. Skall, Bill Dietz, Curley Linden, Chas. Stumar, Ray Binger, Elmer Dyer, Bill Walling, Geo. Hollister, Jr., as well as Mickey himself. Pictures of this handsome and gallant group are coming up.

Alvin Wyckoff



# LOOKING ABOUT on LOCATION and SET-by TY

**G**LASS is an important factor today in all branches of industry, particularly in the motion picture. It may be had to fill many purposes including a three ply glass that is proof against either rifle or pistol missiles even though fired at close range. There is another glass that transmits light only one way, that is, when used in a window a person can see out but an outsider can not see in. Another type when held before the eyes or camera gives effects identical to scenes under water. Glass is now made to absorb heat but not light, to absorb selectively any color and in many ways filter light for photographic purposes.

The studios make many types of artificial glass to be used in shooting scenes where real glass would be a hazard if used. Chief among these is the candy glass that is made both into bottles and plate glass. This type of material is clear and photographs identical to real glass. Another material used is resin, which is molded into the amber bottles so often used in making those bottles broken over actors heads. Chalk is often used when a bottle is to be thrown. When a person goes through a window, the material which flies and shatters like glass is sheets of transparent candy. If babies are seen to be playing with bottles and they break, as was the case recently at Paramount, candy bottles are used.

Try if you can to detect the difference between these artificial glasses and the real.

Compare this with the first glass

when it was known only as a vitreous paste that was molded in clay by the Egyptians 5,400 years or so ago and used by them for ornaments with all the respect associated with platinum ornaments today.

To create atmosphere on the Ronald Colman set where "Masquerader" was filmed, cakes of ice and ice water were used to make the air chilly; fog was artificially made by attaching tubes carrying air under pressure to cans of refined oil. These cans of oil which were secreted about the set gave off clouds of realistic London-like fog.

In the past many of the fog and smoke effects were made by a combination of acids which produced vapor fumes. They were harmful to nose and throat and interfered with dialogue. Now, Harry Redman at R.K.O., has perfected a device that filters the chemical smoke, to make it clean and pure so it wont interfere with activities on the sound stages such as the acid or oil vapor does.

Recently, on the Mary Pickford desert set for "Secrets," one could see an interesting and characteristic cross section of studio life. On the set was a Spanish ranch house upon which the cameras were to pick their action. Out of camera line amid the usual tangle of "flats," "cables" and other props were a couple of serious-faced fiddlers somehow finding room for their fiddle

arms, grimly creating atmosphere with "hearts and flowers" music reminiscent of wide open spaces. Further on are two men calmly letting the day pass while balancing a five foot Joshua tree that has been anchored to a Christmas tree base which was not quite large enough to steady it. It is easier for them to watch the passing scenes rather than take five minutes to nail a larger board under the tree. Over all is a conversational drone from sideline story tellers and those busily directing what work is necessary.

Native tact so beautifully projected with contagious geniality that it easily enters the realms of diplomacy is one of the attributes of Virginia Wood, attache in Paramount's publicity office. The motion picture "finds" itself in such personalities and it needs them in the story carried to the screen. At best the story on the screen is a reflection of those who build it and a person can only build with the material in hand.

Inherent in diplomacy is understanding of people and situations which when used in a picture episode makes it real.

Much could be said upon the technique used in creating explosions and gun fire effects upon the screen. At Universal, if a person is to be shot through a window, Oliver Emert makes a bullet of waxed paper which spends itself and breaks up after shattering the glass. The actor completes the illusion by acting shot.

Machine guns can now be fired using blank cartridges due to a device that fits over the muzzle, whereas formerly blanks could not be used because of lack of recoil.

Imitation cartridges to be carried in belts or otherwise photographed are the regular cartridges. For safety, they have, instead of powder, a little ball inside the shell that rattles.

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Often, when a machine gun is to fire and the bullets strike in a row on a wall an interesting method is used to create this illusion. A row of detonating caps are imbedded in the wall behind the wall paper. These caps are set off, one after the other, by a rheostat. The caps upon exploding give the effect of missiles striking. Many of the casualties of the early days are now eliminated by the use of these sensible devices and the effect is better upon the screen, which after all is what the audience wants. The intelligent person, whether going to see a stage play or a picture on the screen knows that many devices and props must be used if the story is to be well told. Of course, on the stage the imagination is called upon to overlook prop scenery and effects while the motion picture is often condemned because the audience knows many of the effect shots are simulated even though not detectable. It is odd that the public "thumbs down" such use of devices which makes pictures realistic which if not used would mean the audience would need to work mentally that much harder to get the story.

The stage producer paints his large sets on drops and flats while in the motion picture it is actually built and consequently when viewing a screen story it is not necessary to continually "sell" oneself and say that is a large set as is the case on the stage.

### New Standard Leica Camera

This month E. Leitz, Inc., 60 East 10th Street, New York City announce a new type of Leica Camera which is certain to become exceedingly popular. It is the new Standard Leica, and is offered to the public as a gesture to permit camera enthusiasts to possess a Leica at a reduced price during these times of depression.

The Standard Leica is not an inferior or cheaper instrument. It is in every respect up to the highest standard with which the Leica cameras have always been identified. It lacks only the built-in focusing range finder. Aside from this, it is identical with the model D Leica.

All Leica lenses, filters and equipment are interchangeable on the Standard and Model D Leica cameras.

A new type range finder which is mounted horizontally on the camera comes as part of the equipment. This range finder is mounted on a swivel lug by means of which it may be

turned aside at will so that it does not interfere with the manipulation of the control buttons.

The interesting thing about the Standard Leica is that it can at any time be converted into a Model D Leica at the usual conversion charge. It will be noted that the price of the Standard Leica plus the conversion charge totals the price of the Model D.

Many amateurs who, due to the times do not feel justified in buying the Model D Leica can now indulge in Leica photography at less cost by buying the Standard Leica.

The Standard Leica, equipped with a focal plane shutter with speeds up to 1/500th of a second, exposure, Elmar f:3.5, 50mm lens, range finder, and film magazine costs only \$66.00 complete.

A folder describing this camera may be obtained by writing to E. Leitz, Inc., 60 East 10th Street, New York City.

### FILTER DOPE

(Continued from Page 29)

Aero 2 with a neutral density filter and which allows the necessary wider opening of your lens to wash out the background is the one to use. Remember, too, that this is your filter for shots where you have extremes of contrast in lighting.

Those of you who want to limit yourselves to one filter, use the Aero 2 and for you who want to limit yourselves to three excellent ones I pass on the recommendation of one of our Hollywood experts: the Aero 2, the 5N5, the 23A.

We reprint by request our filter chart of October for those of you who missed it. This chart will be of assistance to amateurs who may read our column as well as you news-reelers.

Use these and forget all the other filters.

Judge your exposure without filter. Then allow for respective filter used as follows:

Aero 2—For all-around shots, open up 1½ stops.

23A—For all air shots, clouds, contrasts, open up 2 full stops.

G15—Same as 23A on exposure. Use for little more contrast than Aero 2.

5N5—For scenes on water. Use on snow stuff or wherever extremes in lighting occur. Open up 3 stops.

72—For night effects in daylight. Use wide open.

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### You Can't Beat This

Lee Shippey, clever writer of "The Lee Side of Los Angeles," in the *L. A. Times*, pays this tribute to "The Killers of the Chapparal" produced by Harry Gant of the International Photographers and which recently was shown at Filmarte.

"It's sheer daring, comedy, love and cruel tragedy, all photographed in the thick chaparral on the leaside of L. A. Harry Gant, veteran cameraman, and his associates have in this picture one which can hold interest as can no picture filmed in Asia or Africa which I have seen. And this picture, with wild cats for stars, was taken in a section of our county in which everything fights to live and lives to fight.

"We held our breath when thirty wild cats prowled on the screen and spotted several wise old owls in conference on a lamb. And business began picking up. The owls took wing and the wild cats seemed, for a moment, to follow suit. They fairly flew from limb to limb in pursuit. There's comedy when the wild cats encounter a little black and white skunk and tragedy when one brings down a fawn. It is most instructive to see a raccoon catch a fish. And the spectators are astonished when a haughty old rattlesnake hastily seeks safety at sight of an innocent-looking weasel, but the weasel gives chase, catches the rattler by the lower jaw, as it strikes and hangs on until it's lily time for the rattler. There was love interest when Miss Dolly Terrapin, from a neighboring settlement, turtles into a group of ten desert terrapins, armored like knights of old, and the tilt was on. 'Tilt' is right, for a terrapin is completely hors de combat when flopped on his back, and nobody knows it better than another terrapin. Their game seems to be hooking one shell under another and the weaker shell wearer gets flopped. That effective process of elimination continues until only one is left on all fours and he proudly waddles off with the fair damsel.

"Not a foreign actor in the cast. All native sons and daughters of the leaside of L. A.—A. M."

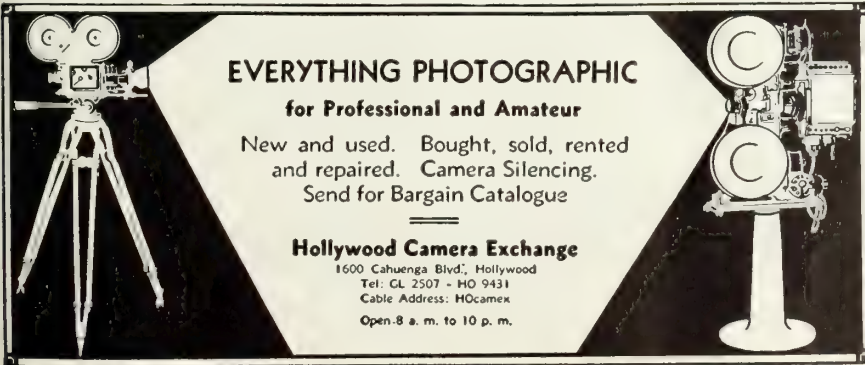
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# King Kong—a Wonder in Celluloid



Here the 56 foot ape, perched upon the peak of the Empire State building, tallest structure in the world, fights an attacking fleet of army planes.

## KING KONG

Directors, Merian C. Cooper and Ernest B. Schoedsack; story by Edgar Wallace and Merian C. Cooper; screen play by James A. Creelman and Ruth Rose; first cameramen, Eddie Linden, Vernon Walker and J. O. Taylor; operative cameramen, Eddie Henderson, Felix Schoedsack and Lee Davis; assistant cameramen, Bert Willis, William Reinhold, William Clothier and Clifford Stine; chief technician, Willis O'Brien; sound, E. A. Wolcott; film editor, Ted Cheesman.

Cast: Fay Wray, Robert Armstrong, Bruce Cabot, Fred Reicher, Sam Hardy, Noble Johnson, Victor Wong and James Flavin.

**H**ERE is RKO's "King Kong." It is something really new and intriguing for the jaded appetite of the screen play fan. That over-worked word "colossal" is entirely applicable in this case. The story is fantastic, including prehistoric animals and strange tribes. The central figure is King Kong, a tremendous ape; so large that when Fay Wray is held in one of his huge paws she looks like a very tiny doll. It would be impossible for the average picture goer to visualize the amount of time, work and care that was exercised in the taking of one scene in which Kong appears. A scene that lasted but a few minutes on the screen consumed weeks in the making. In fact way back in 1930 experiments and re-



Eddie Linden

search work were started and in the fall of 1931 Kong was given his first screen test under the working title of "The Eighth Wonder."

The picture was actually 55 weeks in production with 2 to 10 cameras on the set. The negative used amounted to 238,000 feet, although there are only 10,000 feet in the finished picture. Some astonishing camera tricks were employed which in many cases required weeks before the desired results were obtained. The old method of using "matt" shots was almost entirely eliminated and various new methods in advance of anything done heretofore were introduced. In one sequence 65 electricians were at work and 350 lamps were throwing their powerful beams over the set.

It will be interesting to note that Director Schoedsack and Photographer Linden spent two weeks in New York on the Empire State Building to get that thrilling scene where Kong holds Fay Wray a prisoner on the "mooring mast" 104 stories above the ground. Breathing is almost suspended when the huge ape holds her in his paw out over the city.

However, a few lighter moments did brighten the hard work. Take for instance where Robert Armstrong is shooting a test of Fay Wray aboard the good ship Venture. He tells Fay he "shoots his own" because the last cameraman he had got scared at a charging rhinoceros and beat it. Then Bob decides to try a filter and the camera crew almost ceases to work in registering their amusement over Bob's effort to get the filter in the

holder. They say he'd still be trying if Director Schoedsack hadn't called lunch.

In another sequence where Kong steps on the native's body in the mud, the colored boy raises his head and says: I's all through, Boss. Ah jest saw Saint Peter a reachin' foh his fountain pen."

A goodly share of King Kong's crown belongs to Merian C. Cooper and Ernest Schoedsack, whose courage and convictions made this tremendous undertaking a reality. A bow is also due Technician Willis O'Brien for some of the fantastic effects achieved.

The photography of the picture is one of the outstanding features of the season and the greatest credit is due Eddie Linden, J. O. Taylor and Vernon Walker, all of whom measured up to the full stature of their artistic capabilities.

This is a picture that will undoubtedly appeal to all.

## THE COHENS AND KELLEYS IN TROUBLE

First cameraman, Len Powers; operative cameraman, Dick Fryer; assistants, Walter Williams and Morton Glouner; stills, Shirley Martin; sound, Jeff Moulin; film editor Robert W. Carlisle.

**T**HE many admirers of George Sidney and Charles Murray will welcome the return of this pair in Universal's "The Cohens and Kelleys in Trouble." Maureen O'Sullivan and a fine cast lend able support. George Stevens directs. Cameraman Len Powers is at his best in these sequences with the sea for background.



A flying reptile—Pterodactyl for short, seizes the beautiful maiden, and soars aloft, only to be grabbed out of the air by the gigantic ape, which proceeds to tear the bird limb from limb.



# LOOKING 'EM OVER

## THE CRIME OF THE CENTURY

First cameraman, David Abel; operative cameraman, Ernest Laszlo; assistant, James King; stills, Earl Crowley; sound, P. T. Wisdom; film editor, G. Loring.

**S**TRANGE story of intrigue and mystery is Schulberg-Paramount's "Crime of the Century," adapted by Florence Ryerson and Brian Marlow from Walter Espe's play of "The Grootman Case." The mystery is as to the identity of the person or persons responsible for two murders. It grips all the way.

There comes an innovation near the conclusion of the story when from off stage, so to speak, there enters a stranger who announces that for the space of one minute the house will be given an uninterrupted opportunity to figure out each for himself the person responsible for the tragedies.

So for a long and full minute we look upon a hall clock and listen to its steady tick as slowly the figures rise to sixty. There is little chance for any one to figure it out for himself so tightly is the secret buried.

William Beaudine has directed a subject which will have unquestioned appeal for lovers of the weird but yet not in the category of the horror stuff. Of this there is little, the producer choosing to rest its possibilities for entertainment in the subtlety of its invention.

The photography was in the capable hands of David Abel who turned out one of his usually excellent jobs.

## PRIVATE JONES

First cameraman, Charles Stumar; operative cameraman, Jimmie Drought; assistants, John Martin and George Trafton; stills, Mickey Marigold; sound, Gilbert Kurland; film editor, Robert Carlisle.

**N**O matter how militaristic you may be in your inclinations and beliefs here is one pacifistic character who will interest you mightily. The chief reason for this of course lies in the fact that Private Bill Jones is neither a coward nor a weakling. He establishes himself in the regard of his screen followers even in spite of his unscrupulous tactics to avoid the toils of the draft.

Lee Tracy is the likable and human private whose entrance into the army on the end of a pitchfork is immedi-

ately preceded by the sudden death of his mother, an ending precipitated by the arrest of the son by draft officers for falsifying his statements. There is a smashing finish between these two principals, one that will pull any house to the edge of the seats.

Russell Mack directs. The adaptation is by Prescott Chaplin and William N. Robson of Richard Schayer's original story.

Charles Stumar is credited with a workmanlike job of cinematography on this opus.

## MINE IS THE BLAME

Story and dialogue by Isadore Bernstein; screen play by Sylvia Seid; to be directed by Lois Weber; settings by Lewis W. Physioc; photography in charge of Alvin Wyckoff.

**W**ITHOUT preachment or sermonizing "Mine Is the Blame" is an entertaining psychological story that endeavors to show the futility of suicide. The combination of Isadore Bernstein and Lois Weber recalls many of the financially successful pictures of silent days written by one and produced by the other. It was chiefly through the efforts of Lois Weber that Bernstein's story, "His People," was produced again as a talkie.

Starting with an excerpt from Arthur Brisbane's column, "Mine Is the Blame," quickly swings into a story depicting the life of the family of a prominent professor in chemistry, a student of Nietzsche, who decides to take his life when the depression hits him and leave his beautiful young wife and two children with an enormous insurance.

Recalling Miss Weber's ability to handle such subjects, some may recall "Where are My Children," "Shoes," "The Rosary," and "Jewel," predictions are that in "Mine Is the Blame" there will be an awakening of producers to the fact that stories with a "reason" can still bring crowds to the theatre. Here's more power to Lois Weber and Isadore Bernstein.

On this story Mr. Physioc turned in sixteen sketches in three days.

## Hollywood Technique Employed at Detroit

Gordon Avil, who photographed "The Champ," which was given second award in The Film Daily poll of the ten best pictures, is now in Detroit at the Jam Handy Studios introducing modern Hollywood production technique and processes in the industrial field.

Avil is doing some admirable work

for all General Motors units in introducing to the public and dealers the new model cars in a typical Hollywood fashion.

## Pellex Broadens 16 MM. Field

Walter Bell of Hollywood and Gordon S. Bennett, the latter formerly of Frisco, have organized the Pellex Film Company for manufacture and distribution of Pellex Film to the 16 mm. trade.

Mr. Bell was for seven years with Cine Art Productions, producers and distributors of Cine Art Films and was associated also for several years with William Horsley for whom he sold more than 16,000,000 feet of library film.

Messrs. Bell and Bennett now control their own processing plant for amateurs and they are organized through wholesale dealers to cover the entire West Coast.

Their processing plant operates on a one day service and film arriving by mail at the plant in the morning is finished and on its way home in the mail leaving Hollywood the same evening.

The Pellex people claim to have greatly extended the 16 mm. field because of the lower price of Pellex film as compared with the price prevailing up to the time of the announcement of Pellex early in February. The Pellex price is \$3.75 per roll of 100 feet against \$6.00. Pellex also issues a 50 foot roll at \$1.90 and these prices also include processing.

The producers of Pellex claim that prior to the advent of Pellex the major expense of 16 mm. photography was the cost of film, whereas now the amateur producer of 16 mm. film with a weekly income of \$35.00 or \$40.00 can afford to make movies as in the days when his income was materially larger. This low priced Pellex film is cheap only in price. Its quality is amazingly fine and it is giving its users the greatest satisfaction. It is not a panchromatic nor a super speed, but has qualities equal to the finest orthochromatic and for all ordinary shooting it will yield the best results. It has speed ranging between orthochromatic and the regular panchromatic film, fine grain and wide latitude.

The Pellex people do not recommend the use of filters with this film or the use under artificial lights because of the peculiar quality of the emulsion, but in its own field and at the greatly reduced price they feel that they have to offer the 16 mm. trade a quality of merchandise which if not revolutionary, is a great step forward and an immense service to that vast clientele who cannot any longer pay the higher prices to enjoy the delight of their photographic and cinematographic hobbies.

The Craig Movie Supply Company, 1031 S. Broadway, jobbers in home movie equipment, are the dealers in Pellex in Los Angeles.



David Abel



Alvin Wyckoff



Charles Stumar



### Bloop, Bloop a Bloop

What is a Bloop Punch?

Ask Art Reeves; he sells 'em. Figure No. 1 is a pretty good representation of this funny looking contrivance and Figure 2 shows what it does to the sound track. If it were not for patches in the sound track bloop punches wouldn't have been invented. Because of the double density caused by the patch in the sound track the print at that point would be too light if, indeed, it showed at all and here's where the bloop punch comes in. The



Fig. 1

punch cuts a triangular piece of film from the sound track of the negative and thus allows the printing light to register an opaque section that virtually fades the section in and out without a loud speaker bloop. A bloop is really a bump. If a print were run through the sound projector without the use of a bloop punch these transparent spots in the patches would overload the photoelectric cell which would have the effect of making a bloop or bump in the loud speakers.



Fig. 2

### A New Lab.

Thomas J. Walsh and John B. Autofilli have retired from the Akeley Camera Corporation and, in association with William A. Bruno, have established Bruno Laboratories at 20-26 West 22nd Street, New York City.

### Our President



A smiling likeness of William C. (Bill) Elliott, International president of the I-A who was visiting in Los Angeles at the time this magazine went to press. He is one of the most popular officials in the history of the I-A. Frank Tinney accompanied the big chief. Mr. Elliott is a member of the Cincinnati, Ohio Stage Hands Local No. 5. After several years service as business representative of No. 5, he was elected fifth vice president of the I-A and because of his efficiency and personal popularity he was steadily advanced until now he is the the top.

Elliott's is a big job in these times of great economic disturbance, but he can safely be trusted to fulfill his mission. Come again, Mr. President.



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### Visual Education

Frank B. Good, who needs no introduction to the cinematographic world, is an intimate friend of Mexico's able and brilliant young president, Alvarado Rodriguez. According to Mr. Good the president is a great friend of the motion camera and he is using it extensively in the aggressive campaign for visual education he has inaugurated in the schools of our sister republic.

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# A Chat With 16 M. M. Folk

By MILTON W. MOORE

*International Photographers*

I live up against the mountains in Altadena, almost within the shadow of the famous Mt. Lowe.

Because I am a cameraman and because I am the only one in captivity in this village nestled beneath the Sierra Madre peaks, I have a lot of fun. I answer questions.

They come singly and in groups these 16 mm. fans who want to know about this and that in photography. Sometimes they fill all the chairs and overflow onto cushions or just sit on the floor.

They ask a lot of questions I can't answer and they know I can't and when they get me on a spot like that the party is good. What they want to know mostly is not technical, but what to "shoot" and when. So we have adopted a kind of slogan which is "Don't be a 16mm. snap-shooter," and supplemented by other trite mottoes as "It's got to be good to get shot," etc.

Probably the fault most common to all owners of home movie outfits is the tendency to compile a family album. The fault is not in the idea but in the execution of the idea. Little Johnnie, aged six, clean and hair neatly combed, sitting sedately in the best parlor chair, a toy in his hand and an angelic expression on his face would no doubt make a beautiful picture. That is perhaps the way mamma would like to present him to the world. But—little Johnnie, aged six, in play suit and rumpled hair, with the cat's tail firmly grasped in one chubby hand and mamma's very best silver mounted brush in the other is, we will venture, a much more accurate action picture of the young man. Posed pictures are seldom interesting beyond a mere mechanical likeness, while *natural* pictures of people are human.

If you know what California nights are like under the influence of a full moon you will understand what prompted this question from one of the newer and younger visitors:

"Can't I possibly take pictures on these bright moonlight nights?"

Alas for romance, science has not yet devised the means for photographing satisfactorily by the light of the silvery moon, but if one can be just as romantic and sentimental in the golden light of a springtime afternoon, then there is a way. Place a filter over the lens of your camera. This will give the picture a dark sky and an overall balance of light and shadow which will be a fair imitation of the real thing. However, I am afraid you will find that the subtle influence of moon and stars which are missing from your picture, have left your "night made in the daytime"

shot just another scene—interesting only as an example of photographic technique.

This is rather a broad illustration of the case, but it points out a pertinent fact. Analyze the subject which you are moved to photograph. Why does it appeal to you? Can that appeal be photographed? If not save your film. If it can be photographed analyze the subject further and photograph only that part which makes the picture. The components, composition, balance, harmony, atmosphere have attracted you, consciously or sub-consciously.

A beggar in rags squats beside a gateway, the bare limbs of a tree cast black, grotesque shadows across the grey wall; beyond, through the gateway is a stately mansion in a sunlit garden. Here is a picture. You walk closer, the squatting figure becomes just a dirty beggar, repulsive. You give him a coin and he moves away. With him goes the picture which you might have called "Poverty". And then is left a wall with shadows and a stately mansion beyond a gateway—"Castle of a Gentleman" is all that remains. The beggar, repulsive in himself, made the picture both in mechanics of composition and in psychological value.

The picture, as you first saw it, was a good still subject. It is equally as good for 16mm. even though the element of physical action is absent.

There is the marked distinction, however, between the subjects suitable for stills and for movies. You can't hang your movies on the wall. Therefore, the subjects selected for your 16mm. camera should, if possible, be related—that is there should be some attempt at continuity of thought or sequence of events. Consider the reel of pictures as a medium for recording interesting events or doings of people in whom you are interested, not as a ribbon of film on which to snap-shot unrelated subjects.

A lone shot of your dog chasing a ball across the lawn is like a lost soul; but a series of scenes of your dog doing his tricks makes an interesting movie. These scenes may, of course, be shot at different times and afterwards spliced together in proper sequence.

Don't shoot a picture "just for instance." Consider each scene as a unit of a series of scenes which will tell a story—a real *natural* story. Avoid dramatics unless you are one of those gifted persons who can direct home talent and make the artist act like Garbo or Gable. And, who knows, perhaps you are just such a person.

## Eastman Issues Super Films in "Still" Rolls and Packs

THE Eastman Kodak Company plans this month to begin supplying Eastman supersensitive panchromatic film in the form of "still" rolls and film packs of the most popular sizes. The emulsion offered will be of the same type as those which have found wide use on motion picture film, 16mm. motion picture film, cut film and plates, since their introduction two years ago.

In the recent past the interest among amateur photographers in the special photographic qualities of panchromatic materials has increased appreciably. Making a panchromatic emulsion easily available for this group is the Eastman Kodak Company's objective.

Increased speed under artificial light and out of doors in the early morning and late afternoon is an additional advantage of supersensitive "pan."

Panchromatic emulsions require somewhat different treatment in photo finishing from that accorded emulsions not sensitive to red light.

## Who's This?



Caricature by Dick Winslow, sixteen-year-old extra, of Len Powers, sergeant-at-arms of International Photographers' Executive Board and shooting first camera for the Doane company at Universal.



### Eastman's New Projectors

THE Eastman Kodak Company has completed two new 16mm. projectors, with illumination respectively of 500 and 750 watts. They are designated Kodascopes K, Models 50 and 75.

The increased illumination and crisp focussing of the projectors not only produce brighter, sharper pictures on average-size screens but also they permit projection on much larger screens. The resultant larger screen pictures will be as fully illuminated as those shown by ordinary projectors on small-size screens. Kodacolor movies, too, benefit from the extra brilliance with color tones of unsurpassed quality.

The Model 75 is expected to find particular usefulness for projection before schools and clubs.

Outwardly alike, the new projectors are light in weight, smart in appearance, compact, and sturdy. They project 400 feet of film with a simple threading, and the film is rewound by motor in less than 30 seconds. A unique rewind brake assures the film being wound tightly on the reel.

Lever controls cause the film to reverse at will or to project a "still." Operating controls are centralized on one convenient panel. Most of the important bearings are oiled from a central point.

As with the previous model of the Kodascope K, a receptacle for plugging in a floor lamp or a table lamp is provided. Therefore the same switch that turns on the projection lamp extinguishes the room light and vice versa.

Kodascopes K do not overheat. A powerful fan, forcing a steady stream of air through a newly designed cooling jacket, keeps the projectors cool at all times. A hinged lamphouse door facilitates occasional inspection and cleaning of the optical parts.

Both projectors operate on 100-125-volt A.C. or D.C. lines. The Model 75 contains far and away the most brilliant light source ever built into any home projector.

In the case of the Model 75 a rheostat and an indirectly illuminated voltmeter protect against overloading the projection lamp, thereby increasing its life and yet assuring the full and correct amount of illumination.

### Bob Miller to the Orient

On Friday, February 24, Bob Miller sailed on the Dollar liner, President Hoover for Manila, Tokio and other points in the Orient. Bob is chief photographer of the Dollar and Matson Steamship lines, under command of Alfred Palmer, owner of the photographic concessions. According to Mr. Miller the President Hoover has the finest and best equipped dark room afloat. On this trip he will shoot stuff for movie backgrounds as well as stills. Our shipmate has four more round trips to make before completing his contract.

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FOR SALE—\$200, Debie 35 mm. camera like new, 8 magazines; one Zeiss F 3.5, 50 mm. and one 75 mm. Cases, Debie tripod. HEmpstead 2375.

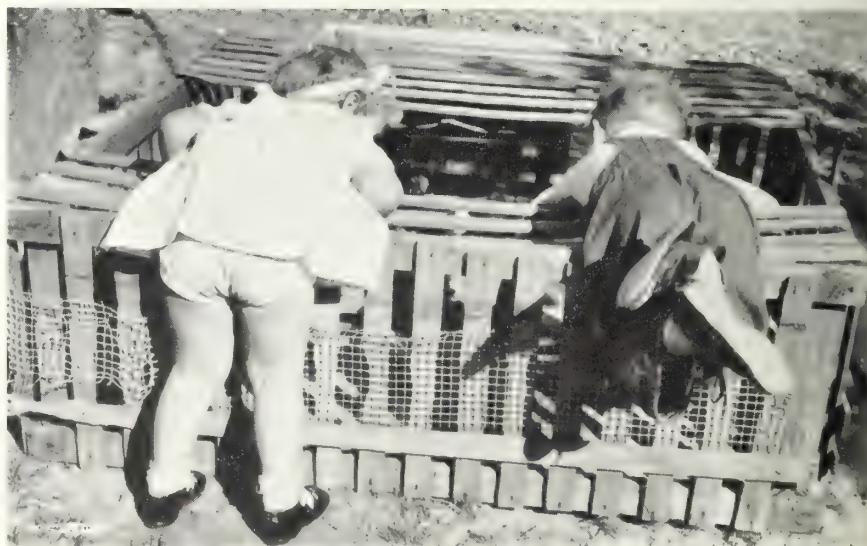
WANTED—Mitchell tripod for 8 by 10 still camera, also cheap 35 mm. camera complete. Suitable for silent news work. Len Humphries, 29 Donegal Drive, Leaside, Toronto, Canada.

FOR SALE OR TRADE—Bell & Howell Filmo 70 D. camera and outfit, 3 lenses, Mayfair case, tripod and case, Kodacolor attachments, etc. All in first class condition. Want late model Eyemo camera. Jackson Rose, c/o International Photographer.

### Silent and Speed Mitchell Cameras for Rent

Follow focus. Also new Mitchell motors, extra 1000 foot magazines, motor adapter, baby tripod, 25-35 mm. and long focus lenses; Mitchell gear box.

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Joan Kaye Olsen visits her cousin at Reseda. Photo by Raider Olsen



### Alton Goes to Argentine

FROM The Standard, a Buenos Aires newspaper printed in English, comes word of the opening in Olivos December 12 last of the S. A. Radio-Cinematografica Lumiton (Light and Sound) studio. John Alton, long a member of the Hollywood cameramen, is manager and technical adviser of the new company, sponsored entirely by Argentine capital.

The West coast photographer has been abroad several years, having been affiliated with French and German producing plants. The property over which he has been called to preside is situated on about five acres of ground. The company has erected its own stages and laboratory. Up to date equipment has been installed. The cutting rooms are in charge of Lasto Kish.

### In Morgana Color

The colorful 1933 Pasadena Tournament of Roses was filmed in color with a Filmo movie camera by the Morgana Color Process, by a member of Bell & Howell's Hollywood organization. The 350-foot film was later shown on a 6-foot screen to an audience of 300—a noteworthy accomplishment for a 16mm. color process—at the annual awards banquet of the Tournament Association. The film was promptly booked for other show-

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### Educational Program

THE newly constituted Central Information Bureau for Educational Films, a British organization, plans the establishment of a central reference office for matters relating to educational films and the encouragement of motion pictures as an aid to international understanding and useful research.

Among the announced objectives are the building up of a library of approved 16mm. films, provision of information for teachers and exchange of information with foreign film institutes and exhibitions of best foreign films of "non-theatrical" interest.

ings before large audiences. Later it was shown privately to Mary Pickford, grand marshal of the tournament parade, and Douglas Fairbanks. The Pasadena tournament, as everyone knows, is an outstanding annual event on the West Coast.



Ralph Staub, the Screen Snapshots Reporter, as "Kate Smith."

### Laff This Off

Phil Tannura writes from London: "One night Director Allan Dwan told his camera crew that he wanted a crane for the next day's work. Everybody was flabbergasted, but the boys finally decided to get an ordinary street crane and add a few bars to keep the platform on the level. It

worked and was used throughout the filming of Dwan's "Counsel's Opinion" picture. Sixteen man power hoisted and panned. The first time we used it was on a set with over one hundred people. We started on the balcony and zoomed down over the dancing heads to the effect that the whole bunch precipitately fled the scene."



Phil Tannura shows the latest thing in booms in London—That's Phil on the boom.

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# Out of Focus



## Last Push?

SI SNYDER and ED. ESTABROOK have taken over the magazine and the first thing, as you will notice, was to push this department back to the last page. This way it takes just one more push and it's out. So will I?

## New Shooter

HERB ALLER, Howard Hurd's assistant, was checking up on an employment agency that was looking for a cameraman that was willing to work for praise and glory, if any. Mickey Whalen went along with him. The agency man asked Whalen what he did. Whalen replied: "I shoot first." He asked Aller what he did and he replied: "I shoot assistant."

## Rob Wagner, in the "Script" says:

Jan. 7th—Karl Struss camera work is always very, very beautiful.

Jan. 7th—Thanks to Robert Kurrle's photography.

Jan. 21st—Ernest Palmer, the cinematographer. His work is entirely worthy of his magnificent subject.

Feb. 4th—And the camera work of Hal Mohr is beautiful beyond words; the night stuff particularly so.

Feb. 11th—And the superb camera work of Victor Milner.

## Brother, can you spare a dime?

ROY JOHNSON has ten dollars which says that he can beat JOHNNY MESCAL 18 holes of golf. The catch is, it must be played at Girard where Johnson thinks he is pretty good and not at Fox Hills where Mescal is not bad.

## Always Obliging

CHARLIE ROSHER came into the camera department at R. K. O. the other day to get his mail. He found one magazine that had been opened and the preceding issue was missing. Charlie posted a note to the effect that the boys were welcome to read his mail as long as they left it where he could get it when they were through with it. Also, if anything important happened to be in his letters he would appreciate their calling him on the 'phone. This was not to apply to bills.

There are two signs on the administration building at R. K. O.:

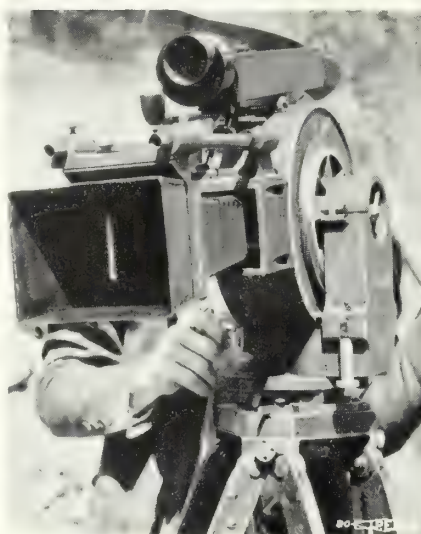
CASTING OFFICE  
5 MILES PER HOUR

I wonder what the speed limit is coming out.

## Homeward Bunned

PAUL PERRY and GUY WILKIE have left Ceylon headed for home, and should arrive in China in time to see some excitement. Get ready for what's what in the Orient.

## Portrait of Cameraman (Working)



*This little knock towards Technocracy to show the hypocrisy practiced by the aristocracy with an 8 x 10 still by Raider Olsen, with an Actinic Release.*

After many years of manufacturing cameras no attention or thought has been given to the man that smokes a pipe. Elsie Janis claimed that she liked a man that smoked a pipe. She is the only woman that I ever heard of that did and, it seems to me, I remember meeting a few. Of course she was getting paid for a pipe tobacco ad at the time she proclaimed this and that might make a difference. But to get back to what's wrong—

How can a man smoke an Akeley and run a pipe? I mean run an Akeley and smoke a pipe. According to the photo above it can be seen that it is hard to have your picture taken and smoke a pipe without trying to operate the camera. This is a condition that should be corrected as it will mean more pipes and tobacco sold and perhaps more Akeleys and that's what we need; more things sold.

On first glance at this picture you would think that Olsen did not have an assistant when the camera was set up, as you will notice that the matte box is on upside down. Also that the finder is lying on top of the camera in a very careless manner. This is not the case though, as all that is necessary to correct the position of the matte box is to turn the camera over and we all know the finder is built in the Akeley.

This same thing applies to a good

## DO YOU KNOW—

That Nick Musuracco and Harry Wild have been on the R. K. O. lot since 1922. It was F. B. O. in those days.

That Harry Perry previewed his air picture at the Warner's Beverly and it went over swell.

That Harry Merland's middle moniker is Joseph.

That Tocquine Martin LeClerc is the assistant you know as Tod.

That I would like to hear from Osmond H. (Brody) Borradaile.

That Ted Tetzlaff is the son of the famous racing driver.

That Chas. Schoenbaum was with Paramount for 14 consecutive years. That Billy Marshall was there longer than that.

That Bob Pittack, ("Ole" to me,) is Wanda Hawley's brother.

That Cecil Wright's center name is Bird.

That Stanley Cortez is Ricardo Cortez brother.

That Harold Wyckoff is no relation to Alvin.

That Clifton Kling is known as "Pinkie".

That Bob Miller has started on another Round the World Cruise.

That J. Henry Kruse has opened a dancing Club called the Paraval.

That Shorty Stafford's first name is Earl.

That T. F. Jackson does first class repair work on auto's when between pictures.

That Earl Walker has a Purple Heart. This is a citation and not an affliction.

## WHY IS THIS?

After many meetings of the Board of Executives of Local 659 it was agreed that sons of members of this organization be given preference on application for membership. They have been rewarded by the following:

### Born to

Mr. and Mrs. Phil Tannura, January, 1933, Girl.

Mr. and Mrs. Ralph Ash, February, 1933, Girl.

Mr. and Mrs. Hans Koenekamp, February, 1933, Girl.

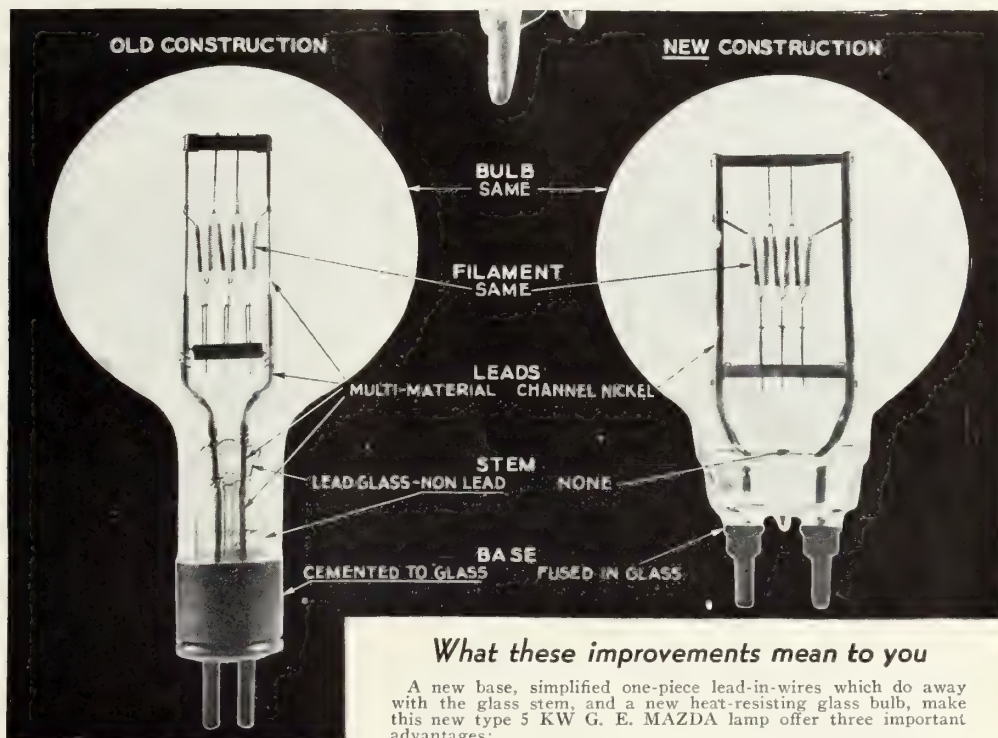
many things that bother us these days. If they look wrong to you at the time just turn them over and they will look different. This will not apply to a glass of beer however.

If you should happen to see Olsen before I do tell him the matte on the left side is cutting in a little and to be sure and have it fixed before he shoots anything.



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2. Gives a stronger, more rugged lamp, better able to withstand the severe service encountered in studio lighting.
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one group of G. E. scientists. Another group works earnestly on the development of new lamps to cope with motion picture lighting needs of the future—needs with which General Electric is familiar through close contact with the studios. And still another group checks the microscopically accurate manufacture of G. E. MAZDA lamps by testing them in use.

Such care enables General Electric to offer a complete line of lamps, standard in quality and meeting every cinematographic need. No wonder the use of G. E. MAZDA lamps on movie lots is continually growing. General Electric Company, Nela Park, Cleveland, Ohio.

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# INTERNATIONAL PHOTOGRAPHER

## HOLLYWOOD

Vol. 5 HOLLYWOOD, CALIFORNIA, APRIL, 1933 No. 3

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*A Monthly Publication Dedicated to the Advancement of Cinematography in All Its Branches; Professional and Amateur; Photography; Laboratory and Processing, Film Editing, Sound Recording, Projection, Pictorialists.*

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## Something to Holler About!

Personally appeared before me this day Edward T. Estabrook, manager of THE INTERNATIONAL PHOTOGRAPHER, and under oath affirms that since February 15, 1933, three hundred ten (310) new and bonifide paid subscriptions have been received and added to the mailing lists of THE INTERNATIONAL PHOTOGRAPHER. This periodical is published monthly in Hollywood, California, at No. 1605 Cahuenga Avenue, and is the property of Local 659, I.A.T.S.E. and M.P.M.O., Howard E. Hurd, publisher's agent; Silas Edgar Snyder, editor.

Dated this 27th day of March, 1933.

(Seal) Edward T. Estabrook.  
Harold V. Smith,

Notary public in and for county of  
Los Angeles, State of California.

My commission expires March 7, 1937.





[The assembly of this mass of historical material of the cinema in sound is like a jigsaw puzzle to Mr. Theisen. Every piece must fit perfectly into its place or the picture is imperfect. There can be no mistake. If the reader knows what it is to look up a German patent he will appreciate the ardors of this task which Mr. Theisen performs so well. Through this work will one day be written the authentic history of the motion picture industry in all its moods and tenses.—  
Editor's Note.]

# The HISTORY of Sound PICTURES

By Earl Theisen

Honorary Curator Los Angeles Museum

Did you know that experiments were conducted in an attempt to make talking pictures as early as 1878? That was fifty-five years ago, and was the same year that Edison announced the phonograph.

A survey of the attempts to synchronize sound to motion pictures indicates that talking pictures was the cherished dream of many men, and that they date from the first realization that the human voice could be reproduced mechanically.

Wordsworth Donisthorpe was, probably, the first to suggest and experiment with making pictures talk. He wrote a letter to the editor of "Nature" which was published in the issue of January 24, 1878, as "Talking Photographs." In it he said, "By combining the phonograph with the kinesiograph I will undertake not only to produce talking pictures of Mr. Gladstone which [who], with motionless lips and unchanged expression shall positively recite his latest anti-Turkish speech in his own voice and tone. Not only this, but the life size photograph itself shall move and gesticulate precisely as he did when making the speech, the words and gestures corresponding as in real life."

He goes on to add that he took his photographs at intervals of half or quarter seconds, with an exposure of an eighth second after which he mounted the finished picture on a long paper band. His kinesiograph, or camera, was so arranged that after exposure the glass plate would drop out of the way and be replaced by the next. The phrase, "with motionless lips and unchanged expression," is apparently a reference to the fact that since he could not take more than four pictures a second, much of the action and facial expression incidental to the sound record was lost, which resulted in the subject saying several words during the time each picture was on the screen. It must be remembered that today twenty-four pictures are taken each second in order to catch all the expression changes.

Since the phonograph of Donisthorpe's time was far from perfect, giving off as it did sounds reminiscent of a cat courtship, very little came of his experiments, although his idea was conceptional and was the introduction of the idea of the talkies.

The first two men to concern themselves with the photographic recording of sound were Czmark of Vienna, who, in 1862, photographed the vocal cords in action, and Alexander Blake of Brown University, who, in 1878, carried on a series of experiments of photographing the vibrations of a mirror attached to a microphone diaphragm. The photographic plate was kept in motion by a clockwork mechanism.

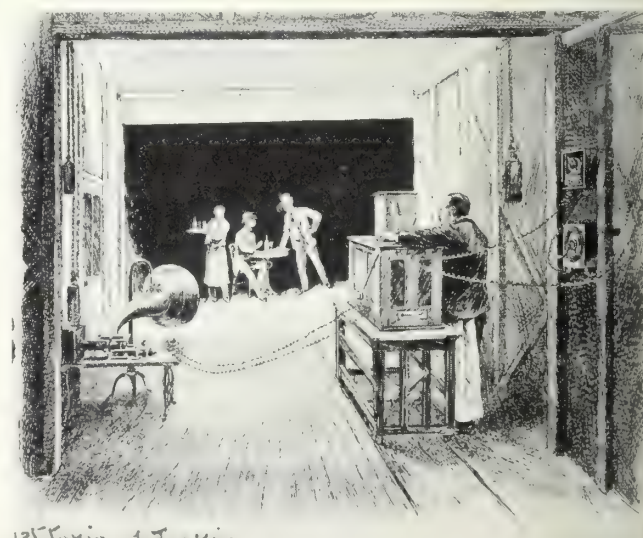
Charles E. Fritts applied for a U. S. patent on October 22, 1880, on methods of recording sound phenomena in which he specifies various systems of recording sounds by photographic means. In the claims for this patent he specifies various slits, or shutters as he calls them, which were coupled to a microphone diaphragm, as well as various optical systems in conjunction with mirrors for creating the sound record. These records were to be recorded on long photographic bands. Selenium bars were used in re-

creating the photographed sound record from a radiant energy into a pulsating electric current that vibrated a diaphragm to recreate the sounds. Selenium, as is known, is an electrical resistor whose conductivity is increased with light intensity.

It is this writer's opinion that the Fritts patent was one of the broadest ever issued on any invention. It covers, basically, all the elements of sound recording as practised today. It is of interest to note this patent was not granted until thirty-six years after application. In the meantime its inventor had died.

Demeny, in 1892, brought out his "Chronophotophone," which was a device that synchronized a cylinder phonograph with slides. These slides were crude attempts to portray motion and were made in the Photographic Gun that had been devised by Demeny several years earlier.

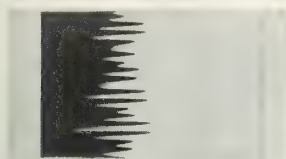
In the meantime Edison had approached the problem of recording pictures for his phonograph. This is interestingly told in a book written by Dickson, entitled "History of the Kinetophone," which was published in 1895. In the foreword, in Edison's own hand writing is stated, "In the year 1887, the idea occurred to me that it was possible to devise an instrument which should do for the eye what the phonograph does for the ear, and that by a combination of the two all motion and sound could be recorded and reproduced simultaneously." This little book tells of a studio room constructed in 1888 in which attempts were made to do this. After a series of experi-



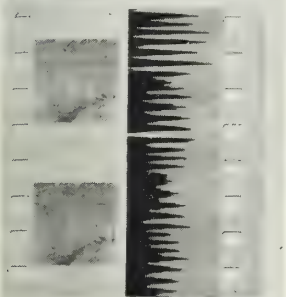
137 Kinetophone & Kinetograph

From Dickson's "History of the Kinetophone," published in 1895, showing the Edison Talkie, being recorded before 1895.

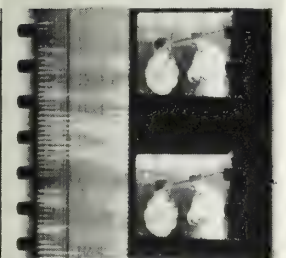




Sound track made by system devised and announced by Rhumer in the Scientific American, July 29th, 1901.



Sound track and picture made by Lauste in 1910.



A sound track and picture of the variable density made by Lauste in 1911.



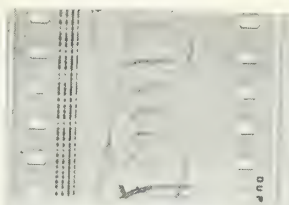
Specimen of film showing synchronizing mark. In 1912 by Amet. Sound was by disk.



Recent specimen of "Movietone" synchronizing mark.



Specimen of the de Forest "Phonofilm" of 1922. First successfully commercial demonstrated system.



Specimen made by Amet, showing multiple track, made in 1922.



Type of sound system used in Germany in 1922. Notes at bottom of frame sung by artists in orchestra pit. Earlier in this country voices behind screen rendered lines of characters, or frock-coated speilers by side of screen held forth.



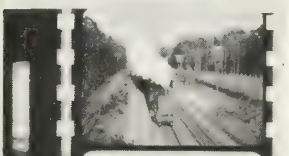
The first type of Photophone of 1928.



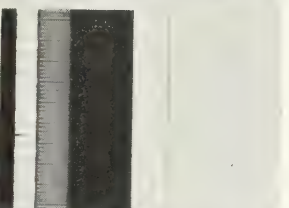
First of the Cinephone by which first Mickey Mouse was recorded.



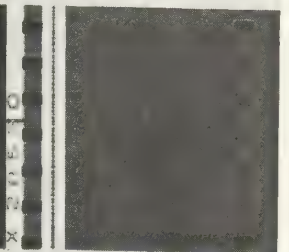
35MM film with sound track on outer edge, as used in Germany



42MM film with track on outer edge, also used in Germany.



Specimen of "Split 35MM film" used by MGM and Universal as economy measure. First used by MGM in 1931.



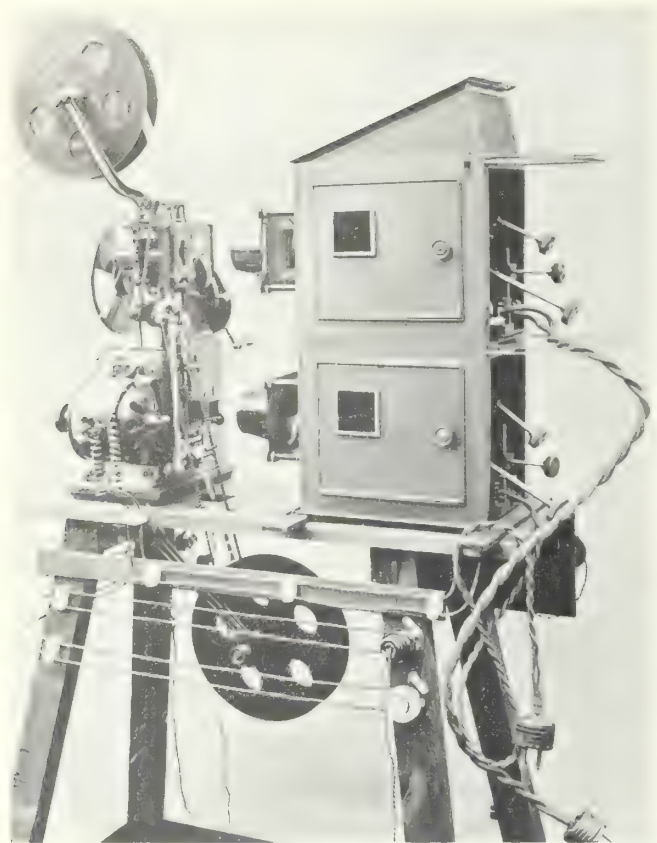
RCA Highest Fidelity Photophone announced May, 1932. Largely developed by M C Batzel, chief engineering department of RCA.



RCA 16MM announced in spring of 1932. First 16M sound on film.

—Courtesy L. A. Museum





Lauste's "sound and scene" projection 1912. The lower lamp house was placed to illuminate the sound track. Film projection is old "Pathe Professional." The apparatus was first sold by Lauste in 1911. The first to project pictures for sound from the same film.

Photo courtesy Merritt Crawford

ments, a demonstration was held on October 6, 1889, which was the first demonstration of the Edison motion picture, and the pictures were synchronized to a phonograph. The "Kinetophone" here demonstrated for the first time, had its commercial debut in 1894, in a Raff and Gammon Peep Show Parlor in New York. The pictures were viewed through an eye piece while the sound were conveyed to the ears by means of tubes. It was not a success, however, Edison continued to dabble with the idea, and in 1910 he again introduced another device that consisted of a projector, and a phonograph that was set on the stage for sound effects. They were coupled together with a long wire belt running from the projector booth to the stage.

These first experimenters had firmly established the idea of talkies, and had set under way many inventors, who struggled with the problem. Since so many systems were devised, space will permit only the more notable or novel being recorded here.

Among these is Valdemar Poulsen, who passed a steel ribbon between two electro magnets. These magnets received a pulsating current from a microphone, which in turn magnetized the ribbon as it passed between them. This system was patented in Germany on April 21, 1900. Earnst Ruhmer, in the Scientific American of July 29, 1901, announced a method of recording sound photographically in a device using motion picture film. He called it the "Photographophone."

Leon Gaumont and H. H. Lake were issued several British patents during 1901 and 1903 on different methods of synchronizing phonographs and pictures by means of either gears or brushes on the armatures of the driving motors. Their patents specify loud speakers and suggested their use behind the screen, the speakers being connected with the phonograph by electrical wires. This suggested use is interesting because the conventional phonograph at this time had its horn attached directly to the needle on the record.

Oscar Messter was granted several patents during 1903 and 1904 on systems devised by him. One claim granted him in a British patent on October 19, 1903, was for a synchronization mark to serve as a starting guide. Messter devised the "Auxtephone," which was a loud speaker that intensified the sound by means of compressed air. The Messter "Chronophone" introduced about 1905, used this method of increasing the sound volume, and its success may be judged from the fact that it was used for a while at the Hippodrome in Paris, which has a seating capacity of 4000. One of the chief problems for these inventors, besides keeping the phonograph record in step with the picture, was the lack of suitable means of reproducing the sound in sufficient volume for a theater audience.

Probably the most successful of the early record using devices was the "Cameraphone" introduced in 1904 by James Whitman, in New York. His results were good, and the device was used for several years, but the novelty of the thing eventually wore off.

Among others to develop and patent phonographic systems in the next few years was W. C. Jeapes, who applied for a patent in 1909 on his "Cinephone." About this time Cecil Hepworth introduced the "Vivaphone." This was a synchronizing device that kept the projector and disc in step by electro magnets and pawls. It was adaptable to any projector or phonograph. E. H. Amet was granted numerous patents on the "Audio-Moto-Phono" during 1912 to 1918. This was a system that had ample sound volume due to an electrical pickup that he devised. It enjoyed a certain measure of success for a number of years in California.

In order to give some idea of the ramifications of the various experimenters, mention might be made of the work of Katherina von Madelar, who was granted her first sound patent in 1916 on a system of recording by means of an electrically heated needle which was attached to a microphone diaphragm. This diaphragm upon vibrating from sound bombardment caused the heated stylus to burn a waveline sound track in the celluloid ribbon upon which it rested. This was only one of the many methods devised by her to create such records. She called her sound equipment the "Propjectophone." William H. Bristol perfected the "Bristolophone," which was patented in this country as an entertainment device in 1917. It specified the synchronization of a gramophone and cinematograph.

In tracing the photographic sound-on-film recording of sound in connection with motion pictures, the work of Eugene A. Lauste is the most important of the earlier experimenters. He made his first sound recorder in 1904. It was made on the principal of the earlier recorders made by both Blake and Fritts, consisting of only a box with a slit, and a light beam that was directed from a mirror on a microphone diaphragm to this slit. He continued to experiment with the recording of sound and picture on the same film, and in 1907 he was granted an English patent (No. 18057). This patent was issued to three men, the other two being associated with Lauste mainly for the purpose of furnishing finances. Lauste continued his experimental work with various type of recorders until 1910, when he hit upon the idea of the string galvanometer. The general principal of this is a mirror attached to a wire of silicon bronze between the poles of two magnets. The mirror vibrates from the impulses from the microphone. The beam of light upon the mirror being reflected to the film through a narrow slit. This results in an exposure of variable area similar to that of the Photophone today. By 1911, he had successfully succeeded in photographing both sound and picture on the same film. Lauste is still working with sound problems in conjunction with the Bell Telephone Laboratories.

Theodore W. Case started working with various electrical resistors in 1916 and by 1917 had filed an application for a patent on a new substance (Bismuth and Sulphur) having a variable resistance under the influence of different intensities of light. It was granted July 8, 1919. This was followed by several other similar patents and in 1920 he filed a patent on the first photoelectric cell. The photoelectric cell was the solution of the biggest problem of the sound pioneers, with it they could reproduce the sound from the recorded track in sufficient volume to make it practical for audience reproduction. This tube was known as the "Thallafide" cell.



In the meantime Lee de Forest had started to work on a sound system. By 1919, he had filed his first patent on a glow lamp, which he later called the "Photion" tube. This tube converts the pulsating electrical current from the microphone into a radiant energy which is photographed on a traveling motion picture film. While this tube makes it possible to record the sound the Case tube facilitates reproduction.

In the next few years de Forest was granted and assigned thirty-five patents on talking pictures and by 1923 had completed several successful demonstrations of his "Phonofilm." Following the week of April 11, 1923, he started his first public exhibition at the Rivoli in New York. Up to this time this was the most successful system developed, and through it was a promise of the talkies that were to come in the next few years. Again the scientists had triumphed and had successfully made another tool. All that remained now was for a courageous business man to take this device of the scientists and distribute it to the public.

The man to do this was Harry Warner. On the night of August 7, 1926, the Warners released "Don Juan," starring John Barrymore. It was released with sound sequences at their New York theater. This opening program carried an introduction by Will Hays, in which he prophesied that the motion picture was going to be revolutionized by this new thing made available to it. The Warner "Vitaphone" system was licensed from the Western Electric. It was a disc system synchronized to film. The discs were mostly discontinued in 1930 for the sound on film, because of the breakage and extra transportation charges incidental to the large 16-inch records.

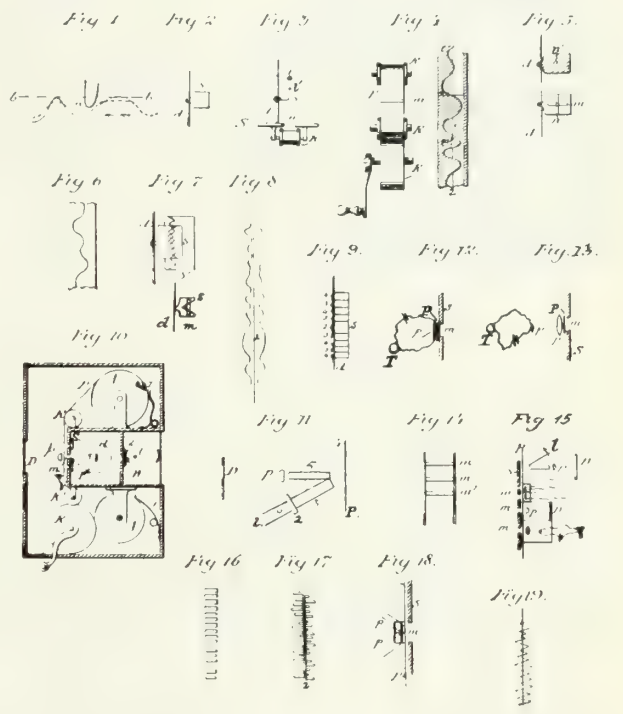
The second picture released with sound sequences was the Al Jolson "Jazz Singer," and the first completely synchronized sound picture was "The Lights of New York," released on July 15, 1928. The cast included Helene Costello, Cullen Landis, Mary Carr, Gladys Brockwell, and others. It had dialogue through the entire picture.

In the meantime William Fox and Theodore Case started to develop the system which was later the "Western Electric Movietone." Fox furnished the financing while Case did the research work. This was developed as sound on film, both the picture and the track being on the same film. The first picture to be released for public showing was Raquel Meller singing a cycle of songs, which was released in conjunction with "What Price Glory," on January 21, 1927. On May 25, 1927, the first complete Movietone program was shown with "Seventh Heaven," starring Janet Gaynor and Charles Farrell.

The first outdoor picture was the Fox Movietone feature, "In Old Arizona," starring Warner Baxter. It was first shown at the Los Angeles Criterion, December 25, 1928. The first picture to have color as well as sound was the M.G.M. "Gus Edwards Color-Tone Review," and the first feature in color and sound was the M.G.M. "Broadway Melody."

Charles A. Hoxie, who did most of the research on the R.C.A. Photophone, started working with the sound and

C. E. FRITTS, DEC'D.  
J. H. FRITTS, ADMINISTRATRIX.  
RECORDING AND REPRODUCTION OF PULSATIONS OR VARIATIONS IN SOUNDS AND OTHER PHENOMENA.  
1,203,190.  
APPLICATION FILED OCT. 22, 1880. Patented Oct. 31, 1916.  
4 SHEETS-SHEET 1.



Witnesses:  
*G. L. Wilbur*  
*F. Jewell*  
Inventor  
*Charles E. Fritts*

Patent specification of 1880, the first patent on record for photographing sound.

Figures 16 to 19 show different sound tracks.

Figures 12 and 13 show the cell used for reproducing the Sounds.

Figures 2 and 3 show the microphone vibrator.

Photo courtesy Leo S. Young.

photographic problem in 1920. The device he constructed at this time was known as "Pallphotophone." He made his first sound camera in January, 1921, with which he recorded many speeches of prominent men which were later broadcast over radio station WGY. This work led directly to the first commercial models of Photophone equipment.

The R.C.A.-Photophone had its first showing, which consisted of several musical numbers, under the name "Kinetographophone," in New York, at the State Theater, in September, 1927, the first feature in Photophone was the F.B.O. picture, "The Perfect Crime," released June 28, 1928.

The first cartoon to be made in sound was the Disney Mickey Mouse, "Steamboat Willie," shown at the Colony Theater in November, 1928, which was made by the independent Cinephone system which was developed by Pat Powers, Halpenny, and William Garrity. This was basically the de Forest Phonofilm system.

Through these first few pictures, sound was firmly established which brought to a culmination another dream of the scientist. He had perfected another tool.

The exponents of dramaturgic art, as well as those of the other arts, are eager to grasp the tools perfected by the scientists. There is a definite convergence of both art and science in the sound motion picture and one aids the other to relieve awkwardness in expression and story telling.



Amet's talking device, 1911-1917, with photograph of Mr. and Mrs. Amet at Redondo in 1912. The palm trees shown in the picture are now thirty feet in height. Note the microphone of those days and camera that recorded sound picture simultaneously.





# Around the World

with

## HERFORD TYNES COWLING

### No. 1

THIS was the first moving picture expedition ever made into Tibet for the purpose of filming the people and customs of the country, although the first Mount Everest expedition had brought out a *very few* moving pictures of Tibetan people.

My expedition into Western Tibet took four months, during which time I crossed three passes over eighteen thousand feet above sea level and traveled approximately six hundred miles on foot or on yaks over extremely difficult country. The plateaus of Western Tibet average thirteen thousand feet above the sea and are surrounded by mountain peaks ranging from twenty-four to twenty-eight thousand feet in height.

Permission was obtained to enter Tibet from Kashmir in Northwestern India, the chief condition being that I should carry all of my own food for myself and servants, on account of scarcity of food in the country. Transportation was secured from the Tibetans who used the black, shaggy yaks as transports, except over the mountain passes when Tibetan porters had to be employed. Many Tibetan villages were visited and about one hundred thou-

sand feet of film exposed which, incidentally, kept very well at the high, dry altitude.

A large portion of the pictures were photographed around the Tibetan lamasaries, chief of which was the large central lamasary at Hemis, where the devil dancers were filmed for three days. About four thousand still pictures were taken during the trip, all of which were developed enroute. At this very high altitude the air was extremely dry and the days were fairly comfortable in June, July, August and September.

The nights were extremely cold, bringing some snow each night, which was gone by noon the next day. There is very little snow at this altitude during the summer months, due to the lack of moisture in the air. Having permission to enter the country from the Lamas, granted at the request of the Maharajah of Kashmir, the Tibetans were extremely friendly and hospitable, although I was often held up for lack of transportation on account of the scarcity of yaks and the necessity of getting together the sixty odd animals necessary for my transportation.

One of the chief difficulties in making an expedition of



H T C photographing the glacier.



Looking from one of the high mountain passes in the Western Himalayas on the route from Kashmir, India, into Western Tibet, at an altitude of eighteen thousand feet. The peaks in the picture are twenty-four thousands feet above sea level. In the immediate center is a glacier three miles wide. This mountain is in Western Tibet and is part of one of the ranges crossed by me on this expedition.



# "To the ROOF OF THE WORLD IN TIBET"

this kind is the shortage of fuel for cooking in a country where there is no large vegetation and the people are dependent on dried yak dung for fuel. I bought this fuel from the natives by the pound for cooking purposes, which, however, did not impart a pleasing flavor to my food.

.. The people had never seen a motion picture and could only understand an ordinary photograph with considerable difficulty. Since, however, there was no religious objection to photographing the expedition was quite successful.

*A prayer-wheel, a copper cylinder on a wooden handle with a weight attached to assist in turning. Filled with prayers written on paper.*



*Costume and dress of a typical Tibetan lama or priest.*

*Tibetan devil dancers in grotesque paper-mache masks, made in Lahasa and blessed by the Dalai Lama at a stiff price. Each Lamasery has a group. Masks represent beings passing souls encounter in their journey to the next world.*

*"Kushok," sacred Lama; remarkable figure in oriental religious life. Considered reincarnation of a disciple of Buddha.*



*Group of women arrayed in long sheep-skin coats and peculiar head-dresses known as Piraks.*

*Notice the enormous ear-flaps of wool in strands, which are woven into the woman's hair.*

*Tibetan women practice polandry; some of them have as many as seven husbands.*

*Rear view of Piraks studded with silver, turquoise and jewels. Entire wealth carried on heads.*



*Here, in this mud and stone, yet substantial monastery, live one thousand lamas or monks.*

*Religious chortens, by western Tibet roadsides, similar to pagodas; always passed on right by Tibetans.*

*Miniature chortens on prayer wall. Colored blue, white and red, representing sky, earth and regions below.*

*A Tibetan lamasery or monastery perched on hill; fifty miles from nearest habitation.*



# *The Habit of Criticising the Motion Pictures*

By Annette Glick, Acting Director, Visual Education Section, Los Angeles City Schools

IT IS natural that parents and educators should concern themselves more with the social and ethical aspects of motion pictures than with their value as artistic products. Frequently what one accepts as a technical and artistic triumph, one rejects as suitable food for growing boys and girls.

It is as if one must view the film with two eyes, each focused separately upon two images, the one being the film as an adult product, subject to the canons by which any good novel or stage play is judged, and the other the film as a juvenile product, with its known powerful means for affecting the thoughts and habits and emotions of the impressionable adolescent.

But while we customarily keep the critical right eye wide open, by which the moral and ethical value of the film is determined to our satisfaction as parents and teachers, we too often keep the left eye, by which the artistic value of the picture is equally measured, tightly closed, or give at best a brief squint through lazy and drooping lids.

We let loose fulminations and broadsides on the baleful influence of certain films as social products, but we are unable to give these criticisms weight by an equal ability to point out flaws in the film when judged artistically, and recommend practical palliatives and remedies.

It is believed that were we to improve and exercise our critical faculties in the literary and dramatic judgment of the film product, and so demonstrate our ability as critics of

both sense and discriminating sensitiveness, our voices, where matters of the essential welfare of boys and girls as effected by motion pictures were concerned, would be heard like the blast of a trumpet, instead of as a feeble bleat.

But while in the judgment of a novel best-seller or currently successful stage play, we can hold our own with the literary critic in determining with fair clarity wherein the product rises to heights of achievement, sinks to depths of inanity, or maintains a fair average, with the typical motion picture, we are at an utter loss even to call up the most rudimentary and workable standards of measurement. This, of course, is the result of the newness of the motion picture as a literary and dramatic medium, and our slowness in investing it with the halo of tradition and lettered dignity.

The principles by which motion pictures are evaluated and perpetuated no doubt will be long years in the making, and it is clear that such fine motion picture critics as Norbert Lusk and Edwin Schallert are even now still regarded as somewhat outside the pale, and hardly to be included in the same category with Richard Lorton. Only when a whole family of literary critics of the first water turn Barrymore and desert the stage for the more plebian screen, will motion picture criticism come into its own.

As for its potentiality as an agency for the moral regeneration or degeneration of the world, the baffling and appalling thing is, of course, the all-pervading, far-reaching, limitless

range and intensity of the motion picture. Children may read the abstract word symbols of a book, and without powerful imagination, may only feebly reconstruct its scenes, but the motion picture is life itself, stopping only short of actual experience.

It is one thing to discuss with high school students in chemistry the injurious results of noxious gases; it is another thing actually to have them breathe the poisonous fumes. It is one thing to discuss in a sociology class the evils of opiates; it is another thing to take the class on a personally conducted tour of the opium dives of Chinatown. The vividness of the motion picture is rendered almost with childlike naiveté; its reality amounts to a vicarious experience. Children who come from a motion picture have lived the scenes portrayed, not merely viewed them.

The motion picture is the living record of an experience; the printed word is only its feeble and abstract representation. As a medium for the transmission of experience, the motion picture is as far above the printed word in range and power and grasp as the printed word is above the inadequate sign language of the Indian. There are many things that thumb and finger cannot say; there are some things that even words are inadequate to express; there are few emotions that may not be conveyed by the rich, revealing representation of moving imagery.

It is clear that all knowledge began with the attempt to fix thought and transmit it from generation to genera-



How they do it in England. Associated Radio Pictures on location on the River Thames, filming "Three Men in a Boat."



tion. Painting and sculpture, as well as writing, were part of an impelling desire to perpetuate and fix an emotion or thought or feeling. Even with us today, the simplest thought has nearly always its concomitant in the instinctive impulse to express it—to transmit it to others.

Some way, by the simple verbal act of mouthing the thought—articulating it, it seems as if we had written some sort of record in the air. And some day in the future, when the mystery of radio shall have been extended, we shall find, indeed, that all these spoken words through past centuries have their undying record, and we shall call up lost sounds and forgotten utterances. Of our words, written eternally in the ether, we may say as Christ did of Lazarus: "He is not dead, but sleepeth."

If all our spoken words are recorded, they will be infinite. As a race, we are at the antipodes from the Hindoo, who is content to sit, leaning upon his T-square arm rest, in introspective and philosophic contemplation!

But to the poet or philosopher, before whose dreaming eye the world unfolds, words are cryingly inadequate things.

Though words are inadequate media for the expression of abstract thought, due to its restriction to pictorial imagery, the silent motion picture is little better. Talking pictures, on the other hand, achieve a higher level for thought transmission than the silent screen, adding as they do the symbolism of words to concrete and graphic pictorial representation. And the talking motion picture comes more nearly gathering within its fold all forms of thought conception than any other medium for the expression of thought and feeling since the world began, uniting as it does painting with sculpture, and sculpture with music, and music with the drama, and poetry and literature with all these.

Though there have been, it is true, Leonardo da Vincis and Michelangelos who thought as well in terms of architecture and sculpture or painting, and expressed themselves with as much facility and genius in any one or all, the trend of art expression has tended to place the varied art forms in separate compartments with clearly de-

fined barriers between.

It would have been considered a major phenomenon had Beethoven as instinctively turned to an expression of his rhythm and harmony through the medium of chiseled marble or etched line. There is no doubt that sculpture can best portray form and roundness; painting, color and shadow; music, harmony. But the histrionics of the motion picture may include all these and, through the magic of imagination, portray symbolically all the complexities of life, its many ramifications and its interlacings. All these are the province of the screen.

Through the imagination as stimulated and aroused by words, one may hear again Beethoven's Kreutzer Sonata or see again the rampant color harmonies of Turner or Sargent. All the fine arts are within the realm of the writer, but the palette upon which he spreads his colors, the spinet upon which he plays his song, is the sensitive, imaginative power of the reader. Sometimes his superb imagery, his exalted melodies, fall upon dead ears. Because we lack life experience and creative imagination ourselves, we are a diaphragm which will not vibrate to its receiving sound, or a harp string which cannot be plucked. The poet's words mean nothing, and the musician's dying cry becomes only a feeble tune.

It is through this power to supply experience as well as simply to convey ideas and thoughts and emotions, that the motion picture accomplishes what the poet or sculptor or musician cannot do. The motion picture does not merely stimulate the imagination and arouse thought; it supplies that very experience (vicariously), which is at the basis of thought. And to this fountain-head of experience are added all the arts, freed of their restrictions of time and place, and given the world and even the stellar spaces for their province.

Far exceeding the pen in potency and range is the motion picture, for to the abstract symbolism of words with all their power to express emotions, impulses, and meanings, will some day soon be added the symbolism of painting, and sculpture, as music has already been enlisted to make up the harmonious whole.

In the newer period of mechanical improvement, when stereoscopic photography—to supply form and roundness as in sculpture, and color and musical recording shall have been perfected, when even there is a "Theater of Odor Melodies" where odor shall take its rightful place as one of the senses utilized by art for significant and realistic expression, in this period just ahead, the motion picture will combine all art forms in one superb whole, just as Phidias so hopefully painted his marble figures to give them the glow of health and life, and Ghiberti in the doors of the Baptistery at Florence, caused his bronze paintings almost to stand erect.

But in the speed with which these very mechanical improvements are being made, lies the evanescent, transitory character of the motion picture. These same mechanical improvements affected the book in its effort to record thought, from the early days when prehistoric man heaved up his piles of stones as a record of some act successfully accomplished, through the days of the perfection of papyrus, the wax tabulum of the Romans, parchment, pen, and paper, down to the modern clattering linotype and rotary printing press.

But while these mechanical changes took place over centuries and millenniums, with the motion picture, this same range of mechanical perfection and accomplishment has been a matter of years and decades. And just as our modern age would chafe at reading Oppenheim or G.B.S. on frayed and crackling papyrus, so our modern 1933 hoots at the vintage of 1923 as expressed in antiquated motion pictures. So fast do we move, as a result of our Yankee ingenuity and driving energy, that the mechanical progress of a year becomes as a century.

And the curious fact is that in no other form of art expression does the mechanical medium so clearly determine the nature of the art expression as in the motion picture. The music of Schubert is still Schubert whether played on a spinet or via radio; Shakespeare's plays are still enjoyed in the primitive manner with no stage props at all, and a sign reading, "This is the forest of Arden," to supply the missing scenery. Socrates might sit and with crooked stick scratch his words in the sand and all the world would still read. Some of the greatest painted etchings of all time were scratched on the walls of Altamira by Cro-Magnon artists, and we still stand in wonderment before them, thrilling as much to the taut muscles and plunging hulks of the great prehistoric animals as to the intimate beasts of Landseer or Rosa Bonheur accomplished with modern canvas and colors. \* \* \*

When once the mechanics of motion picture production become stabilized and fixed, when technical improvements come with less swiftness, when the Stradivarius becomes the standard medium over centuries of time, then the motion picture artist will be judged by his work and not by its mechanical trappings.



*Photography by Paul Ivano of an original drawing for a motion picture set—the work of Mr. Cedric Gibbons, art director, M.G.M.*



# A Photographer is a NOVICE Before He is an AMATEUR

By GEORGE J. LANCASTER  
(A member of the International Photographers)

Amateurs can produce first class films when working within strict limitations. Films which are original in expression and outlook and of high technical character have been shown on a number of occasions.

A variety of cameras, lenses and telephoto attachments can be obtained and really first class results produced. What you see in the finder is what you will get on the film, providing the lens is set at the correct focal length, the diaphragm stopped at the correct exposure in accordance with the brilliancy of the prevailing light.

Some cameras operate at speeds of 8-12-16-24-32-48 and 64 frames per second; each speed requires a different opening of the diaphragm. Example—At speed 8 the film travels slower past the aperture than at 64, thus admitting more light for the exposure, therefore requiring the diaphragm to be closed more than if the speed should be at 64; the film speeding past the aperture more rapidly requires more light for the exposure.

The normal speed for a slow motion is 128 exposures per second; for best results a 1"—F.18 Cooke lens should be used. A 2 inch lens is referred to as a long range lens while lenses from 6 to 6 inches in focal length are termed telescope lenses. The power of the 6 inch telephoto, for instance, has a magnifying power six times greater than the one inch lens.

Long distance and telephoto lenses provide a tremendous variety of opportunities from which they are barred if only with short focal length lenses. The 2 inch lens is particularly useful for intermediate distance shots, the six inch lens for movies at greater distances. Because of their long focal length telephoto lenses are generally slower than the ordinary lenses; by increasing the size of the aperture a speed as fast as F.33 can be obtained.

The hyperfocal distance is the minimum distance at which critical sharpness is obtained for a given diaphragm opening when the lens is focused at infinity. All objects at the distances shown and beyond will be in focus. If the exact distance desired is not marked on the lens it will be sufficient to set lens at intermediate positions between markings.

## Filters

First in importance to the camera operator who strives for real beauty in his films is the uses of color filters, known as ray filters and light filters. The seven colors of the spectrum are violet, indigo, blue, green, yellow, orange and red. Yellow appears most brilliant to the eye. Green, blue and violet on one side, orange and red on the other side lose brilliance according to their distance in the spectrum from yellow. Orange and red appear more brilliant to the eye than green and blue.

In order to obtain a true photographic reproduction of what the eye sees it is necessary to reduce the amount of blue light that reaches the film; permitting to record the orange, red and yellow rays in their corrective values.

Color filters for ordinary purposes are yellow in color; placed over a lens a yellow filter holds back a portion of the blue light making blue photograph darker, the red to be photographed lighter, while the rest of the spectrum is corrected. White clouds stand out against grey skies, the fine details of highlight and shadows are seen in water and snowscapes; yellow flowers stand out light against their foliage.

Filter densities are rated by symbols indicating the increase in exposure, for subjects under average light conditions 2x (2 times) the normal exposure given, when ortho film is used, but when (pan) panchromatic film is used it is necessary to increase the exposure one-half times greater or two and one-half times open. Beach and water scenes, close-ups and general short distance shots, snow scenes and telephoto shots call for use of filters.

The 4X filter is generally used for landscapes, cloud studies and for general use with panchromatic film; the sky filters which are graduated from clear to 6X density,

permits differential filtering to compensate requirements between portions of the same subject, for instance in photographing clouds and sea in combination with the foreground without under-exposing the foreground.

To obtain sharp, brilliant, clear-cut pictures the lens must be free from dusty finger marks, or covered with a smoky film. Photographic lenses are made of optical glass, the nature of which is such that extreme care must be used to prevent abrasions and ruinous chemical reactions. It is, therefore, suggested to use a scientifically developed cleaning fluid, cleaning tissue, a camel's hair brush and a linen handkerchief.

The most exact and convenient method of obtaining a sharp focus is by observation through the lens itself as in the critical focuses, or through the auxiliary lens. Another method is to measure the distance and set the lens, which has been scaled for sharp focus at the proper mark, by using a tape.

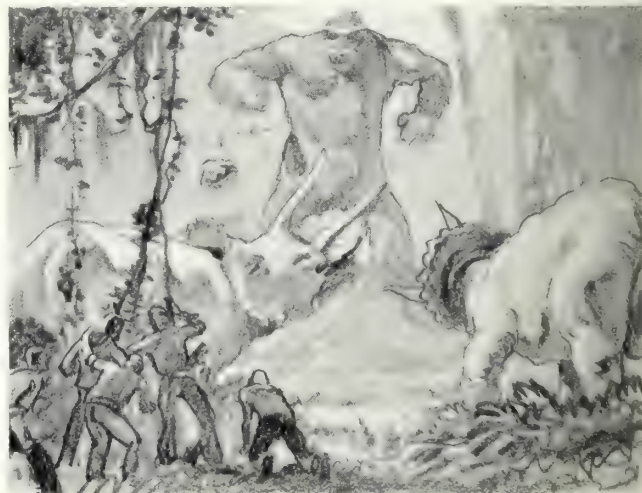
Caution should be used to hold the camera steady, even when tilting scenes or panoramas are being made and to obtain an even camera movement, the perfection of this steady movement can only be secured by the use of a tripod with a fine pan and tilt head.

For interior photography under artificial lights three factors control the success. First: The power of the light; second, the speed of the camera lens and, third, the distance of the subject from the light. While no one has succeeded in equaling the sun's lighting power artificial lighting has been developed to a point where it is a rival of the sun's rays. With a 500 watt light and reflector a good exposure can be had at four feet with an F3.5 lens opening. If the subject is farther away either the lens must be faster or the light increased.

For instance one will get more light at three feet than one would at six feet away from the light. But care must be taken that the walls and ceilings have average reflecting power such as white ceilings and medium toned walls, that no daylight or other additional light falls on the subject, that the subjects are clothed in medium colors neither white nor very dark.

Judging by the widespread interest in home movies, it is well for the amateur to know the camera technique in making movie-play. There are certain rules to be observed and, of course, some sort of a story to follow; a play should have a beginning, a middle and an end.

At the beginning one should not expose the situation of  
(Continued on Page 17)



This is one of the original drawings used in the scenic construction of "King Kong"



# CINEMATOGRAPHER'S BOOK OF TABLES

 $B_{\gamma}$ 

J. F. WESTERBERG

*(Member of the International Photographer)*

This is the first installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of The International Photographer, member of the S.M.P.E. and the Academy of M.P.A. and S.

There are seven more installments to come, concluding with the Novem-

ber issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket

ring book. Cut down the middle of page 11; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages, 11 and 12. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index.

DEPTH OF FIELD  
100 M M LENS

Distances in Feet to Point of Focus		DISTANCES IN FEET INDICATING LIMITS OF GOOD DEFINITION									
		F-1.4		F-2		F-2.8		F-4		F-5.6	
3	2 99 to 3 02	2 98 to 3 02	2 96 to 3 04	2 94 to 3 06	2 91 to 3 05	2 9 to 3 1					
4	3 96 to 4 03	3 94 to 4 05	3 93 to 4 07	3 90 to 4 10	3 86 to 4 17	3 8 to 4 2					
5	4 95 to 5 05	4 92 to 5 05	4 88 to 5 11	4 84 to 5 16	4 78 to 5 22	4 7 to 5 3					
6	5 9 to 6 1	5 9 to 6 1	5 8 to 6 2	5 7 to 6 3	5 7 to 6 4	5 6 to 6 5					
7	6 9 to 7 1	6 9 to 7 1	6 8 to 7 2	6 7 to 7 3	6 6 to 7 4	6 4 to 7 7					
8	7 85 to 8 2	7 8 to 8 2	7 7 to 8 3	7 6 to 8 4	7 5 to 8 6	7 3 to 8 8					
9	8 85 to 9 2	8 8 to 9 3	8 7 to 9 4	8 5 to 9 5	8 3 to 9 7	8 1 to 10 2					
10	9 75 to 10 2	9 7 to 10 3	9 6 to 10 5	9 4 to 10 7	9 2 to 10 9	8 9 to 11 4					
11	10 7 to 11 3	10 6 to 11 4	10 5 to 11 5	10 3 to 11 8	10 0 to 12 2	9 7 to 12 7					
12	11 7 to 12 3	11 6 to 12 5	11 4 to 12 7	11 2 to 13 0	10 9 to 13 4	10 4 to 14 0					
13	12 7 to 13 3	12 5 to 13 5	12 3 to 13 8	12 0 to 14 2	11 7 to 14 7	11 2 to 15 5					
14	13 6 to 14 4	13 4 to 14 6	13 2 to 14 9	12 9 to 15 3	12 5 to 16 0	12 0 to 17 0					
15	14 5 to 15 5	14 3 to 15 8	14 1 to 16 0	13 8 to 16 5	13 3 to 17 3	12 7 to 18 5					
16	15 5 to 16 6	15 3 to 16 8	15 0 to 17 2	14 6 to 17 8	14 0 to 18 5	13 3 to 20 0					
17	16 4 to 17 7	16 2 to 18 0	15 8 to 18 3	15 4 to 19 1	14 7 to 20 0	14 0 to 21 5					
18	17 3 to 18 7	17 0 to 19 0	16 7 to 19 5	16 2 to 20 3	15 6 to 21 4	14 8 to 23 0					
19	18 3 to 20	18 0 to 20 3	17 6 to 20 7	17 0 to 21 5	16 3 to 22 0	15 4 to 25 0					
20	19 2 to 21	19 0 to 21 5	18 4 to 22 0	17 8 to 23 0	17 0 to 24 5	16 to 26					
25	23 7 to 26 5	23 0 to 27 0	22 5 to 28 0	21 7 to 29 6	20 4 to 32	19 to 36					
30	28 2 to 32	27 5 to 32	26 5 to 34 5	25 5 to 37	24 to 41	22 to 48					
40	37 to 44	35 5 to 46	34 to 49	30 to 53	30 to 62	27 to 80					
50	45 to 56	43 to 58	41 to 64	38 to 72	35 to 89	31 to 130					
75	65 to 90	61 to 98	57 to 106	51 to 140	45 to 225	39 to INF					
100	82 to 128	76 to 145	70 to 178	62 to 262	53 to INF	45 to INF					

BASED ON AN ALLOWABLE CIRCLE OF CONFUSION OF .002 OF AN INCH.

## FILTER FACTORS

# FILTER FACTORS FOR NORMAL DAYLIGHT EXPOSURES ON STANDARD BRANDS OF PANCHROMATIC MOTION PICTURE FILM

FILTER USED	EASTMAN FILM*		DUPONT FILM		AGFA FILM
	Type 2	Super- Sensitive	Regular and Special	Super- Pan	Super- Sensitive
Aero No. 1	1 5	1 25	2 4	1 7	1 8
Aero No. 2	2 5	1 50	3 7	2 7	2 3
3N5	5	4	5 6	4 4	4 6
5N5	8	5	8	6 3	5 7
K-1	1 5		2 2	1 9	1 6
K-1 <sup>1</sup> / <sub>2</sub>	1 75		2 7	2	1 8
K-2	3		3 1	2	1 9
Minus Blue	4 5	2 5		2 7	2 4
G	5	3	5	2 9	2 2
23-A	6	3	5 3	6	2 8
A	10	4	7	8 5	3 6
B	12	8	16	5 6	14 4
C	10	24	12	11	17 5
C-5	4	6			
F	20	8	10	17	5 1
N-D .25	1 8	1 8	1 8	1 8	1 8
N-D .50	3 1	3 1	3 1	3 1	3 1
N-D .75	5 6	5 6	5 6	5 6	5 6
N-D 1.00	10	10	10	10	10
No. 72	Night Effect Filter F 2.3 to F/3.5				

\*Eastman Special Panchromatic for backgrounds has the same factors as supersensitive altho the speed is 2 1/2 stops slower.





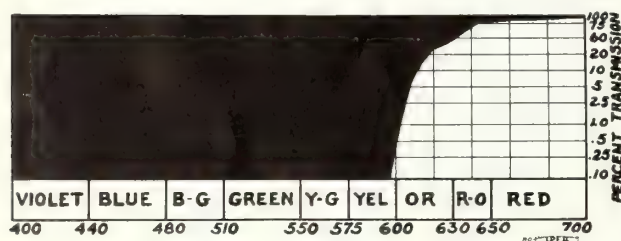
Clyde De Vinna and his crew set up for a shot in "Eskimo" (MGM) at TELLER, Alaska. A very interesting story, written by EDDIE BLACKBURN on his interview with DE VINNA appears as a feature of "THE BRULAI-TOUR BULLETIN" in this issue.

9

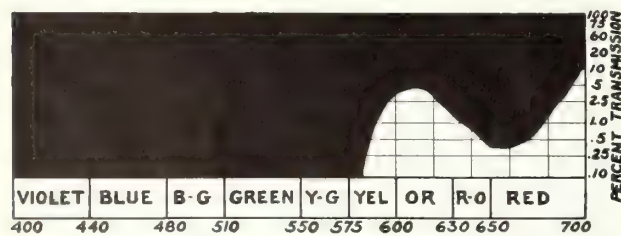
20

## FILTER TRANSMISSION GRAPHS

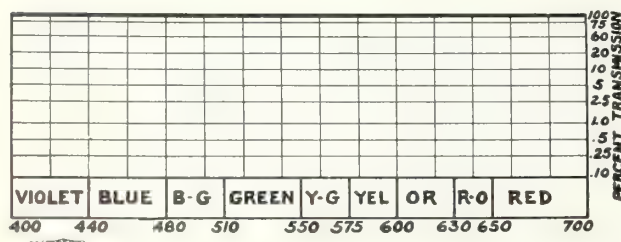
Wratten Light Filters



No. 29. F.



No. 72.



Data by Eastman Kodak Co. Wratten Filters. 1932 Edition.

## SENSITOMETRY

TABLE SHOWING OVERALL GAMMA OBTAINED BY VARIOUS COMBINATIONS OF POSITIVE AND NEGATIVE GAMMAS.

Negative Gamma	OVER-ALL GAMMA						
	Positive Gamma 1.4	Positive Gamma 1.6	Positive Gamma 1.8	Positive Gamma 2.0	Positive Gamma 2.2	Positive Gamma 2.4	Positive Gamma 2.6
40	.56	.64	.72	.80	.88	.96	1.04
42	.59	.67	.76	.84	.92	1.01	1.09
44	.62	.70	.79	.88	.97	1.06	1.14
46	.64	.74	.83	.92	1.01	1.11	1.20
48	.67	.77	.86	.96	1.06	1.15	1.25
50	.70	.80	.90	1.00	1.10	1.20	1.30
52	.73	.83	.94	1.04	1.14	1.24	1.35
54	.76	.86	.97	1.08	1.19	1.30	1.40
56	.78	.90	1.01	1.12	1.24	1.34	1.46
58	.81	.93	1.04	1.16	1.28	1.39	1.51
60	.84	.96	1.08	1.20	1.32	1.44	1.56
62	.87	.99	1.12	1.24	1.36	1.49	1.61
64	.90	1.02	1.15	1.28	1.41	1.54	1.66
66	.92	1.06	1.19	1.32	1.45	1.58	1.72
68	.95	1.09	1.22	1.36	1.50	1.64	1.77
70	.98	1.12	1.26	1.40	1.54	1.68	1.82
72	1.01	1.15	1.30	1.44	1.58	1.73	1.87
74	1.04	1.18	1.33	1.48	1.63	1.78	1.92
76	1.06	1.22	1.37	1.52	1.67	1.82	1.98
78	1.09	1.25	1.40	1.56	1.72	1.81	2.03
80	1.12	1.28	1.44	1.60	1.76	1.92	2.08
82	1.15	1.31	1.48	1.64	1.80	1.97	2.13
84	1.18	1.34	1.51	1.68	1.85	2.02	2.18
86	1.20	1.38	1.55	1.72	1.89	2.07	2.23
88	1.23	1.41	1.58	1.76	1.93	2.11	2.29
90	1.26	1.44	1.62	1.80	1.98	2.16	2.34
92	1.29	1.47	1.66	1.84	2.03	2.21	2.40
94	1.32	1.50	1.69	1.88	2.07	2.26	2.45
96	1.34	1.54	1.73	1.92	2.11	2.30	2.50
98	1.37	1.57	1.76	1.96	2.15	2.35	2.55
1.00	1.40	1.60	1.80	2.00	2.20	2.40	2.60



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## From Ty's Hollywood Note Book

Make-up during the early days of the theatre consisted of a series of masks that were worn by the actor. In the Grecian Theater of four of five hundred years before Christ one actor would enact all the roles in a play. These early masks were fastened over the face and when the actor changed from one role to another he would change to the corresponding mask. The plays of the early theater were mostly tragedies.

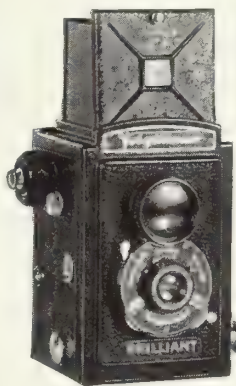
Make-up is like the wishing powder of the alchemists. It eliminates time and space. With it the make-up artist can make age into youth or in a few minutes create a character from any part of the earth.

Willis O'Brien, the technical engineer and Eddie Linden, photographer, in the making of "King Kong" availed themselves of practically every phase of engineering and photographic skill to bring this picture to the screen. Into it enters all the processes including Dunning, Williams, glass matte and projection, etc., as well as every photographic effect known. Imagine the skill required to animate an 18-inch miniature ape that is struggling with another prehistoric monster while holding Fay Wray in its hand. To create this effect Fay Wray was photographed from real life and then introduced into the hand of the miniature ape by the "projection process." This 18-inch ape, by the way, appears on the screen to be thirty or so feet tall while the girl seems to be only slightly larger than his thumb.

In some scenes birds in flight, planes flying over New York, animals fighting are introduced and animated in miniature with, probably, more realism than the original could be brought to the screen.

The motion picture attracts to itself people from all lines of endeavor in order to bring to the screen the story of life. Not the least of these is John Cerisoli, an Italian wood carver of the old school. His family has been wood carvers for four generations, in Italy, and he has been carving for the motion pictures for over twenty years. He has worked on such pictures as "Moby Dick," "Helen of Troy," and more recently "King Kong." It is not entirely a literal claim when one says he can carve wood with his eyes closed, which in itself means little, but since he carves with them open his contribution to the cause of better pictures is a worthy one. He is now with Willis O'Brien at R.K.O.

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taking "Stills"*

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# Report of the Committee on the Care and Development of Film

(Reprinted by request from the Journal of the Society of

Motion Picture Engineers, No. 3, Vol. 20, March, 1933)

## Sub-Committee On Laboratory Practice

*The following report, reviewing the conditions as actually found at present in the field, is intended as an introduction to a more detailed and technical study of laboratory practice, to be reported on later. All the phases of handling and treating both unexposed and exposed film in laboratories are discussed, beginning with the testing of the raw stock as received by the laboratory, passing through the exposing, developing, fixing, washing, and drying of the film and concluding with duplicating and several subsidiary operations. Following the initial work of the sub-committee represented by the studies of existing conditions described in this report, the sub-committee purposes in the future to report separately on each of the above named phases.*

### Outline

A, Testing; B, Exposing; C, Developing; D, Fixing; E, Washing; F, Drying; G, Conditioning; H, Cutting; I, Printing; J, Duplicating; K, Seasoning.

### Summary

**Testing.** When producers of motion pictures began to record sound on film in addition to the scenes, the problems of processing became more involved. Factors that had been allowed to vary with impunity had to be maintained constant, and sensitometric equipment, requiring for its operation trained men, had to be installed. New emulsions were prepared in the attempt to obtain a higher quality of picture and sound records.

**Exposing.** The theory of sensitometry is quite explicit in defining the proper exposure of the negative. However, no standard rules of exposure can be strictly adhered to in producing motion pictures owing to the numerous variations in working conditions and the many special effects desired. The greatest degree of coördination is required between the cameramen and the laboratory technicians if the best quality pictures are to be obtained.

**Developing.** In order to increase the quantity of film processed and improve the quality of the product, machines are now used in all large laboratories for developing film. Three methods of controlling the process, or various combinations of these three methods, are usually employed: (1) sampling, (2) time and temperature, and (3) sensitometric. Each of these methods has its own advantages.

**Fixing.** Alum fixing baths are most commonly used, as they require very little attention. The motion of the film through the bath usually causes sufficient agitation of the solution to assure sufficiently complete fixing.

**Washing.** In most instances the tap water runs directly through the washing tanks to the drain. In some few locations it may be necessary to cool the water during the warm season.

**Drying.** Conditioned air of the proper temperature and humidity is circulated through the drying cabinets. The curl of the film usually provides an index of the proper conduct of the drying procedure.

**Conditioning.** To prevent the accumulating of dust and dirt on the film, only conditioned air is admitted into the developing, printing, and assembling rooms. The improvement in the quality of the film, due to guarding it against dirt and scratches, has more than offset the cost of the conditioning equipment.

**Cutting.** The introduction of the sound negative demanded a new technic in cutting and assembling. The addition of music and other kinds of sounds requires thorough technical training of the cutter.

**Printing.** Several types of mechanical devices are now used to determine the proper printing exposure. The

uniformity of development that occurs in developing machines is an important factor that assists in properly determining the exposure of the negatives. Trained technicians maintain the exposure scales of the printers constant and uniform.

**Duplicating.** Special emulsions and printers are used in attempting to match the quality of the duplicate print and that of the original print. The contrast can be matched by appropriately developing the film, although graininess may increase and loss of definition occur.

**Seasoning.** Many patented methods are in vogue to protect the film and lengthen its useful life. The most common method of seasoning consists in applying about the perforations a small quantity of wax, which decreases the friction and the tendency to tear during the process of projecting the picture.

It is here purposed merely to describe briefly the methods generally employed by the industry in the development and care of film. Thus, the committee submits this report to the Society with the desire that it be considered as an introduction to the reports to follow, in which the respective operations in this field will be studied individually, both from the standpoint of actual practice and from the existing literature.

At the completion of such a survey of each operation of the producers in converting an emulsion into a finished print, and distributing the print to the exhibitors, the Committee will be in a position to attempt to make recommendations for the standardization of laboratory and exchange practice.

On examining the bibliography in this field, it was found to be extremely lengthy. Thus, rather than attempt to present a general bibliography in this report, it has appeared advisable to subdivide and list the literature in later reports with the respective operation to which it pertains.

In this general discussion, it may frequently appear that the report includes subjects outside the purview of this sub-committee. However, it was concluded that any factor such as the characteristic of the emulsion or the nature of the exposure that might affect the quality of the finished print should be considered. The quality of the laboratory work is judged by the release print.

### A. Testing

The proper processing of sound film, when introduced into the laboratories, necessitated an increase of personnel. The requirements of the sound engineers could be correctly interpreted and properly fulfilled only by those familiar with the theory of sensitometry. Some laboratories realized this fact, and either engaged additional help, or properly trained some of their own employees. Various types of sensitometers were installed, and sensitometric practice soon became a part of laboratory practice. The film manufacturing companies were particularly helpful in supplying and calibrating equipment and in training the personnel.

After the practice of continually checking and maintaining developers and printers had been instituted, it became apparent that frequently variations were introduced by new emulsions. Checking new emulsions for speed and contrast then became an additional function of the new department.

Various types of equipment were tried, with more or less moderate success. Photocell densitometers were developed for the rapid reading of sound track densities. In most instances, operators have returned to such standard equipment as a calibrated wedge or Nicol prism densitometers. Densities are usually read with the emulsion facing a diffused light. Sensitometric exposures are usually made in variable time steps with a high-intensity light. Unless otherwise stated, all reference made in this



report to densities and contrast will imply this type of measurement.

Practically all motion pictures now made in this country are made on panchromatic negative stock. The process of making film panchromatic consists essentially of adding dyes to the emulsion to obtain the desired spectral response.

With the advent of sound pictures, it became necessary for some producers to replace the noisy carbon lights with silent incandescent lamps. The incandescent lamps, the energy radiation of which was much greater at the longer wavelengths, permitted the emulsion makers to increase appreciably the speed of their product by increasing the sensitivity of the emulsion to the red end of the spectrum. This change permitted a decrease of the required lighting and, in general, resulted in an improvement in quality of the pictures owing to the closer equivalence of the spectral response of the film to that of the eye. However, these advantages are not so important on exterior pictures where many producers continue to use regular panchromatic stock.

The addition of a gray coating to the film base resulted in the absorption, by the base, of the light transmitted through the emulsion, thus preventing the reflection of light back into the emulsion and additional exposure caused thereby. Approximately sixty per cent of the negative emulsions now used employ the non-halation gray base. Emulsion makers are continually improving their product by increasing the speed, decreasing the grain, and adding to the general quality of the finished print.

Due to its low cost and uniform characteristics, positive film is always used for recording sound on a film separate from that containing the picture. Most productions are made by this double system in order to permit the selection of a proper emulsion and negative developer for the sound recording. Numerous new emulsions have been made in attempts to improve the volume and quality of the sound records. Emulsions of high gamma infinity have been made for variable width records, and emulsions with a low gamma infinity have been made for variable density records. High-speed positive emulsions have been

made for flashing lamp recording to permit the use of a lower intensity of unmodulated light, thus demanding a smaller polarizing current and tending to increase the life of the lamps.

In single system records, where sound and picture are recorded on the same film, the sound can not be given much consideration. Both the negative emulsion characteristics and the negative development must be confined to those limits that are satisfactory for the picture. The single system of recording is used only when portability of equipment is more important than high quality of sound. Its chief use is found in news photography, in which the necessary equipment is materially decreased by having to employ only a single camera.

Emulsions for printing are low in price, high in contrast, monochromatic in response, slow of speed, and of extremely fine grain. Several hundred prints are frequently made from a single negative. This permits the manufacturers to produce positive film more economically on large-scale production. Film manufacturing losses increase with the speed of an emulsion. Dye sensitization is unnecessary with monochromatic emulsions. It is therefore possible to obtain positive emulsions for a fraction of the cost of negative emulsions.

The positive film must be high in contrast to permit the required over-all gamma of unity to be obtained without excessive negative development. As the high speed of the negative entails a coarse grain, the development is limited to low values of gamma at which the grain is not objectionable.

Lamps of almost any type or intensity can be used in the printing machines. Therefore, economy of manufacture chiefly governs the speed and spectral response of the positive film. The low speed permissible with positive emulsions permits us to realize the advantages of fine grain structure.

#### B. Exposing

According to photographic theory, the visual tone scale of a scene can be matched on a print only when the negative and print are properly exposed. The region of correct exposure of a particular emulsion can be determined

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## Speed Panchro Lenses

The capsheaf insuring the perfection of Noel Coward's "Cavalcade" (Fox) was its filming by able Ernest Palmer through Cooke Speed Panchro Lenses. And "Cavalcade" is but one of a score of screen successes whose excellence of photography was assured by the technical perfection of Cooke Speed Panchro Lenses. Especially corrected for today's lighting and films, the maximum variation in chromatic focus is, for instance, but .001 inch in the 3-inch lens working at F 2. Eleven focal lengths—24 mm. to 4¼ inches. Cooke F 2.5 Panchro lenses offer the same correction as the Speed Panchros. Seven focal lengths—35 mm. to 6¾ inches.

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*Betty Compson was always beautiful and the artistic touch of Shirley Vane Martin was all that was needed to transfer her loveliness with fidelity to the photographic plate. Photograph her any way and you'd get a work of natural art, but, after all, correct posturing is not to be ignored and the setting with the elegant appointments is befitting even to so sumptuous a subject as this charming girl. Thank you, Mr. Martin.*

by plotting the characteristic from the density readings of a sensitometric strip of the emulsion. If the density be plotted against the logarithm of the exposure, the region of correct exposure will be a straight line. On a negative picture, developed with a sensitometric strip, those portions of the scene that produce densities that fall along the straight line are properly exposed. Theoretically all other portions are either overexposed or underexposed. This is true also of the print.

In practice, the improper exposure of a negative is easily detected by inspection. If details be lacking in the shadows, the film is underexposed; or, if it be lacking in the highlights, the film is overexposed.

Since it is extremely difficult to reproduce faithfully the complete range of tones visible in the usual scene, the exposure is adjusted for the objects of principal importance. As the time of exposure of all sound pictures must be constant, the exposing light must be adjusted so as to obtain the proper exposure. Trained cameramen seldom fail to expose their film properly when they are working under normal conditions. It is much more difficult, however, to achieve the proper lighting contrast. Often a cameraman returns to a set for the purpose of photographing additional scenes or making retakes after a lapse of several weeks. He must attempt to duplicate his previous lighting so that his new negatives will properly match the previously exposed negatives, both in density and contrast. A change of light intensity in printing can often compensate for a change of negative density, but a change of contrast can be corrected only by varying the negative development.

The usual procedure followed in photographing a scene is for the director to describe to the cameraman the lighting effects desired on the screen when the print is projected. The cameraman attempts to accomplish what the director desires by adjusting the positions of his light sources, the intensity of the light, the color of the light, and the amount of diffusion. These adjustments are based on his experience with numerous scenes photographed under various lighting conditions, which he had subsequently viewed on the screen. The cameraman must be very familiar with the characteristics of both the negative emulsion and the manner of developing in the laboratory. If he makes an error in judging the lighting of the set, the laboratory may or may not be able to help him, depending upon the type of negative development control employed.

There are three principal methods of exposing sound negatives. In the variable width system, a mirror attached to a vibrating galvanometer unit reflects a beam of light upon the moving film, producing a sound track of varying width. There are two methods of exposing variable density sound tracks. In one case, a light beam of

constant intensity impinges upon the moving film through a slit, the variation of whose width changes the time of exposure. In the second, the film is exposed to a modulated light beam through a slit of fixed width and the intensity of the exposing light is varied.

In variable density recording, the same rules concerning exposure apply as in exposing a negative picture. Overexposure or underexposure of the sound track causes audible distortion just as similar errors made in exposing the picture negative cause visible distortion. Improper exposure in variable width recording does not usually result in distortion, but causes a change of volume.

In photographing a scene by the double system, a strict routine is followed to insure the proper marking of the film and thus enable the laboratory to print the sound and picture negatives in synchronism. At a signal from the director, the sound machine and camera are started on an interlocked system. The sound man or his assistant indicates when his machine has reached synchronous speed. The assistant cameraman announces the feature, scene, and "take" numbers before the microphone. Action follows until the cameras are stopped at a signal from the director. With the cameras and sound machine still interlocked, the cameraman and sound man make synchronizing marks on their respective films. The sound man also punches the feature, scene, and take numbers on his film. The cameraman photographs a slate bearing the same information. The films are now completely equipped with identifying marks.

The routine of different companies varies somewhat in obtaining the same results. Some companies, in preference to making synchronizing marks, photograph the action and record the sound of some simple device, such as that made by two pieces of wood struck together. The cutter soon learns to recognize the sound record of this signal noise as a synchronizing mark on the sound track.

### C. Developing

All developing done by the major laboratories is now accomplished in machines in which the film is mechanically moved through the developer at constant speed. The exposed film is fed to the machine at one end; and the developed, fixed, and dried film is emitted at the other end. Since many of the laboratories designed their own machines to suit their specific requirements, numerous types are found in operation. They may be roughly divided into two classes: those in which the film moves perpendicularly, and those in which it moves horizontally.

The developer is continually circulating through a cooling system. In some machines thermostats automatically maintain the temperature constant within one degree. The temperature of operation varies at different labora-



"Secrets." Here she is—the World's Sweetheart—if the world is not too cockeyed to have such a thing. Not just a woman—an actress—a star, but an institution. Mary Pickford is the most amazing figure on the screen, a pioneer and yet the youngest actress of them all—a builder of millions of wealth, a philanthropist, a philosopher and could have been governor of California if she had not been too busy doing things she likes to do better. Photograph by Mr. K. O. Rahmn.



tories from 65°F. to 68°F. The developer is maintained at a given strength by automatically introducing additional developer into the circulating system.

Considerable variation can be found in the speed at which the film travels through the developer in different developing machines. While the average speed for negative film is about sixty feet per minute, speeds as low as twenty feet per minute and as high as one hundred feet per minute can be found at various laboratories.

Similarly, the time of development of negatives varies from eight to twenty minutes, depending upon the agitation, rate of circulation, and strength of the developer. Negative developing gammas vary from 0.50 to 0.65.

Although the negative developers used in different laboratories vary in concentration, their basic constituents are usually identical: monomethyl-para-aminophenol sulfate, hydroquinone, borax, and sodium carbonate. The concentration of these ingredients is varied to permit the most efficient operation of the different machines. When, due to lack of space, a laboratory is obliged to use a small machine, it is necessary to use a fast working developer in order to obtain the proper contrast, unless the laboratory is willing to operate at lower efficiency and operate the machines more slowly.

Three types of control of negative development are in use. In the time-and-temperature system, all negatives, regardless of exposure, are developed for a fixed length of time. The bath is supposedly maintained at a constant strength and constant temperature. The strength of the bath is checked at regular intervals by means of what is supposed to be a standard exposed negative.

In the sampling system, the cameraman submits a sample negative of every new scene, which is developed for a standard length of time. By inspection of the developed sample, the proper time of development of the particular scene is determined. This method places considerable responsibility on the inspector, who must always be in close contact with the cameraman in order to know the type of picture to be desired.

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(Continued from Page 10)

the theme. This eliminates jumping right into the subject, but leads the audience gently toward the situation. At the middle of the play the climax must be reached and at this point work toward the end. When the end has been reached it should close in such a manner as not to leave the actors "in the air," but create an impression of finality and satisfaction to the theme.

A scenario or script should be a description in detail of the story you are to shoot. The angles and camera distances should be written as technically as possible. Terms for camera distances and angles used in a script are as follows: close-ups (.U.) medium close up (m.c.u.) medium long shot (m.l.s.) long shot (l.s.) and distance shot (d.s.). An insert is a close up of an inscribed object such as a visiting card, a letter, a sign post, etc.

After you have taken the picture and have worked for perfection in the character and general make-up, as you see in a professional motion picture in a theatre, the next job is editing the titling. This will improve the subject. The first step is to study the projected film for rearrangement into some kind of sequence, adding titles into narrative form. Different sections may need more than one title; the film isn't cut until the titles are made, then the sequence is determined. Titles made, you cut up your film, splice the titles in and join the parts in sequence, then you have a fascinating movie with a beginning, middle and end. Our film is complete and on a par in its class, with a Hollywood super-production.

### ***The Man for the Place***

Edward D. Horkheimer, candidate for councilman from Hollywood, is one of the pioneers of the motion picture industry in California. He was one of the organizers of the famous Balboa Studios, Long Beach, and no man has a better or more sympathetic understanding of the needs of the workers in the studios and the allied industries in Hollywood.

Mr. Horkheimer is perfectly acceptable to the members of Local 659 and affiliated organizations who sincerely recommend him to the voters of the Hollywood district.

### ***That Leica Again***

Gilbert Morgan, Hollywood representative of E. Leitz, Inc., of New York, manufacturer of the famous Leica camera has for three years demonstrated this camera throughout the country and has placed it in every studio and with scores of camera men, directors, actors and technical men in the industry.

Bert Glennon the cameraman who shot "The Blonde Venus" for Von Sternberg at Paramount Studios and also photographed "The Half Naked Truth" for R. K. O. made many Leica pictures for reference work during production. The Leica played an important role of its own in "The Half Naked Truth," where it was used to make a candid camera shot right on the screen.





*This excellent still tells its own story. It exemplifies a new use for camera cranes. The picture in production was "Murder in the Zoo." Director Edward Sutherland is standing on the crane while Lionel Atwell and Kathleen Burke are on the bridge across the lagoon where swim the deadly alligators. The cameraman is Ernest Haller. The still was shot by Sherman Clark.*

## "BACKWARD, TURN BACKWARD"

By TONY GAUDIO

Dear Mr. Editor:—For some odd reason, oldtimers like myself get a great deal of joy out of recollections of the past. The slightest incident on the set, a familiar face or scene and the mind harks back to days gone by. The years roll away as if by magic and on the silver screen of our mind's eye is projected scenes which originally took place in the long ago.

The other day I walked on the set of "Silk Express," which I was photographing at the First National Studios in Burbank. One of the extra women said: "Good morning" to me. I did not recognize her and so returned her greeting quite casually.

"Don't you know me anymore, Tony," questioned the woman wistfully. "I'm Florence Lawrence."

I spun on my heel and gazed more closely. It was true. This was the original Biograph Girl, the most famous glittering star of her time, the Ruth Chatterton of yesterday! I had photographed her a score of times when she was the pampered darling of her studio, with cars, maids, jewels, fame. Now she was working as an extra on this set for

\$5 per day. Such indeed are the vagaries of fame, the irony of life.

This incident started me thinking about the past. Many happenings of those early days in motion pictures came to my mind—the days of the Keystone Kops, of heavy one and two reel melodrama, "The Birth Of A Nation" and even earlier D. W. Griffith masterpieces—much else. It occurs to me some of these reminiscences are eminently worthy of repetition.

Take this story, for example: It was in the first years of the industry—then really and truly an infant industry. The companies were all small, all struggling to get on their feet. Leading actors of every studio were carpenters, painters, set dressers and prop men as well as the stars of their pictures.

Ralph Ince, John Adolphi and James Cruze, now directors, but in those days favorite leading men, would erect the set, fix the drapes, set the furniture, then make up their faces and enact the scenes. Florence Turner, the famous Vitagraph Girl, simultaneously with her position as

reigning star of this company also held the positions of wardrobe woman and cashier for the women extra talent.

Then Maurice Costello, New York stage matinee idol, entered the lowly movies. Indignantly asserting his profession was acting, he refused point-blank to shift scenery or erect back-drops. The other leading men followed his example and also rebelled. The day was won and the producers sorrowfully put through an order for carpenters, painters and prop men.

A thousand memories of the old days crowd in upon me, but most of these are grouped around the days when Florence Turner reigned as the Vitagraph Girl and Florence Lawrence as the Biograph Girl. In this same period, Margaret Fisher was the Universal Girl, Pearl White was making serials for Pathe such as "The Clutching Hand," and others with equally hair-rising titles. John Bunny was the chief comedian at Vitagraph, Bronco Billy Anderson was making Westerns at Essanay and James Cruze was the leading man





Here is Cinematographer Ray June with his camera crew on Mary Pickford's latest picture "Secrets." Mr. June is sitting under the enormous blimp containing the camera while Director Borzage is immediately in front of him. The other members of the technical group are William Stuart Thompson, second cameraman; John Noyes, sound and W. J. Clellan, electrician. K. O. Rahmn shot the still.

of the Tannhauser Company, in New Rochelle.

There were no expensive writing staffs in those early days of the motion picture. I smile when I read in the paper of some sixty writers being under contract to Metro-Goldwyn-Mayer and stories of similar conditions existing at the other studios, for in the early hey-day, directors, producers, cameramen—even the office boy—suggested the story which was filmed.

I myself wrote a goodly number of the scripts which I photographed. Time has dimmed the memory of many of these—indeed they were simply thought up, briefly outlined and then "shot." Some of those from my own pen were "Conscience," a Vitagraph two-reeler starring Florence Turner; "The Queen's Honor," starring Mary Pickford and "The Blind Husband," featuring King Baggott and Owen Moore.

Henry Walthall was a "big shot" in pictures in those days—young, handsome, adored. I photographed him in "Strongheart," in which Walthall played the handsome half-breed football player. I recall going to Boston to photograph the football game between Harvard and Yale for this picture in which Blanche Sweet was featured. This was about 1913.

I photographed Blanche Sweet in

a number of pictures—another was "The House of Discord." Strange as it seems Mickey Neilan was her leading man and Lionel Barrymore played the heavy. The world knows of the later romance of these first two. About this time Owen Moore and Mary Pickford were one of film-dom's happiest couples.

In 1914 I was at the old Fort Lee studios in charge of all cameramen. It was from here I was called to photograph all the specials Biograph was making for Klaw and Erlanger. Do you remember some of this famous series of pictures: "Class-mates," "The Woman In Black," "The Millionaire Kid," "The House of Discord," etc.

In 1916 I came to California in charge of productions co-starring Harold Lockwood and Mae Allison for the old Metro Company. Then joined Norma Talmadge, all of whose pictures I "shot" for four and a half years—"Smilin' Thru," "The Lady," "The Eternal Flame," others.

Reminiscences—a thousand of them come to mind. But there is no room for all the meanderings which memory brings to the fore. Enough to say that the good old days of motion pictures were truly that—colorful, picturesque, memorable, a time of preparation for glories to come. The mind caresses them fondly and then

lays them away in its recesses to sleep until eternity.

### REINCARNATION

Have you ever thought of the great amount of time, labor, money, worry, etc. that are expended to produce the film you use in the theatre? And have you ever wondered what became of the once precious motion picture record when it reaches its final worn out shaving? There it is, about 8,000 feet long, weighing 40 pounds, composed of celluloid, albumen, gelatin and silver; all scratched, dirty and unfit for further life, a story spoiled for continued showing.

Is it declared useless and thrown away? No. Evolution! Onward! Never say die! Film scrapman Jefferys patiently waits for it. He takes the film and runs it through chemical baths catching the laughter, tears, love scenes and letting the clear celluloid remain. The chemical bath has recovered the gelatin and silver and deposits its valuable content to be purified, for silver is still negotiable.

The clear celluloid starts anew. To again portray the emotions of your favorite stars? No; its romantic life is past. It is sold to makers of artificial leathers and laquers. Its new life is to carry pigments and gums and stick fast to wood, iron and canvas. Its new name is Filac—J.H.K.



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## DE VINNA BACK FROM ALASKA

Rambling Cameraman Who Gained Fame in South Seas Clicks Encore in Far North

CLYDE DE VINNA, winner of the Academy award for his photographic achievement in "White Shadows of the South Seas," has returned to Hollywood after spending ten months in Alaska as chief of camera staff on the M. G. M. production, "Eskimo."

Production direction was in the hands of W. S. Van Dyke, who has also won his spurs for riding the seas and the mountains to far locations for the Culver City Studio.

De Vinna has been in charge of the cameras for four of the M. G. M. Van Dyke productions, namely, "White Shadows", "The Pagan", "Trader Horn" and now "Eskimo."

On the current production which is being polished off in its fine points during the next two or three weeks at the M. G. M. Studios, De Vinna had as his photographic associates George Noble and Bob Roberts as second cameramen and Dale Deverman and Jimmy Knott as assistants, with Roy Clark in charge of the stills.

C. S. Pratt and H. D. Watson are the sound engineers, who recorded all the takes during the ten months of production in the far north where they employed a special super-portable sound recording equipment, which is the creation of the engineering department sound division, M. G. M. Studios.

Noble, Roberts, Deverman and Knott remained on location in Alaska where they will be kept busy for the next several weeks in obtaining special shots of whales and polar bears; also photographing some additional background material.

De Vinna's report on conditions at their location, which is between Point Teller and Point Hope, approximately a hundred miles north of Nome, is most interesting. He states that during the months of December and January past he had barely an hour a day in which to operate the cameras, and then under conditions which were far from favorable. With sunrise at about 11 a.m. and sunset at 1 p.m., just two hours later, he was unable to get any degree of satisfactory exposure except between the hours of 11:30 a.m. and 12:30 p.m.

Unit was equipped with a motor generator of 500 amp. capacity and ample lighting equipment, with which the company made all of their interiors while they were in the north country.

Ten actors and actresses were taken from the Culver City Studio, and this cast was augmented by about six hundred natives. Including the cast and technicians the personnel of the unit numbered about forty. All of the long jumps by the entire company were made by plane, and coming out from

Teller to Fairbanks, Alaska, a distance of 600 miles, the jump was made in approximately six hours.

During the ten months on location the camera crew exposed approximately 300,000 feet of Eastman Super-sensitive grayback negative, and De Vinna is most enthusiastic in his unstinted praise of this film. He declares it would have been impossible to obtain results achieved with any other film; in fact, he says that while Eastman Super-sensitive grayback is ideal for all production purposes, it was certainly made to order for the very unusual conditions under which most of the photography was made on this production. The glaring reflections and halations from the snow and ice were no deterrent to successful, pleasing and artistic photography, and De Vinna allows he would like to see somebody go into this country with a clear base negative and come out with anything at all comparable to the results achieved with Eastman grayback.

In discussing the natural light condition De Vinna says it is simply terrible, that there is no degree of uniformity in the light; one day will be glaringly brilliant and the next day overcast and soggy. We asked him whether he had used any sort of scientific instrument to measure the light, and he replied, "I used the best instrument that any cameraman could possibly use under these conditions, a good old hand test of Eastman Grayback Super, which told the story exactly as we had to know it."

We were very much interested in discussing with De Vinna details of their living conditions. We asked him whether they had any fresh meat. "Plenty," he said, "we had reindeer galore, fresh beef and at times a pig."

"How," asked we, "did you get the pig?"

"Flew in," replied De Vinna. "Do you mean to tell us," we gasped "that up there pigs have wings?"

— \* \* \* — \* \* \* —  
—So Gibby and Bud picked us up off the floor, De Vinna dusted his hands, threw a nasty look over his shoulder, and left our office to return to the lot, where he will complete his pick-up and polish-off shots of "Eskimo."

## Ernie Miller to Mexico

Having completed photography of the Mascot serial "The Three Musketeers", Ernie Miller, chief cameraman for Fanchon Royer Productions, is now in Mexico shooting backgrounds and special atmospheric shots for a forthcoming Mascot feature. With Miller on "Musketeers" were Edgar Lyons and Tommy Galligan as seconds, with Monte Steadman and Joe Lykens, assistants. Fanchon Royer is expected to return from New York to Hollywood in a few weeks, at which time company of about thirty will be taken by Miss Royer to Mexico City, where a big Spanish feature will be produced, at which time Miller, of course, will be in charge of the cameras.

## Fox

L. W. O'CONNELL has completed production on the Hamilton McFadden picture and has started a new one under the direction of Frank Craven which carries the tag, "Five Cents a Glass." Sounds very interesting and picture will probably be completed before the title is a realization in fact in Hollywood. Don Anderson is in the spot of second cameraman, with assistant jobs being handled by Harry Daw and Russell Hoover.

HAL MOHR has completed "Warrior's Husband", a Lasky picture directed by Lang for Fox distribution, and is now standing by for his next probable assignment again in association with Director Henry King, the man who was responsible for "State Fair", which was also photographed by Mr. Mohr. Bill Skall continues as the man of all work.

GEORGE SCHNEIDERMAN is completing "Pilgrimage", a Jack Ford production, and is standing by for another assignment, which will probably take him to the Fox Western Studios for the next several weeks. Curt Feters, second; James Gordon, Lou Kunkel, assistants.

JOHN SEITZ is turning in especially beautiful photography on the current Janet Gaynor vehicle, "Adorable", which is being directed by Dieterle. Joe McDonald, second cameraman; Lou Molino and Eddie Collins, assistants.

JAMES WONG HOWE has returned from Europe where he has spent the past six months on assignment of Fox, and is now in production on "Power and Glory", directed by William Howard. Paul Lockwood and Harry Webb are James' assistants.

LEE GARMES has started on the new Blystone production, "My Lips Betray" with Warren Lynch and Johnny Schmitz, seconds; Warner Cruze, H. C. Smith, assistants.

ARTIE MILLER is also on the list of new starts at Fox, being assigned to the new David Butler production, "Hold Me Tight." Second camera is being handled by Joe Lashalle; Bill Abbott and Al Lebovitch, assistants.

## Warner Bros.-First National

SOL POLITO is in charge of cameras on Warner Bros. musical, "The Gold Diggers of 1933", which is a close follow-up of "Footlight Parade", which was photographed by Politto. Incidentally, critics in every key city in the United States have been most kind and enthusiastic comments on the photography of "Forty-second Street", being a smart little boy, continued to hold his staff intact, with M. J. his second, and Speed Mitche his assistant.

TONY GAUDIO is all staged and in a sputtering state of enthusiasm with his current assignment "Voltaire", starring George Arliss. This is Gaudio's first picture through Arliss, and even Tony is delighted with the results. John Adolph is directing "Al Green" is the second and Charlie, assistant.

SID HICKOX is in production turning in some truly beautiful photography of Kay Francis in "The Sign of the Cross", which Lloyd Bacon is directing. Tommy Brannigan is operating the camera and Wesley is his assistant.

ARTHUR TODD has come to Bobby Jones golf series, which has the kindness and courtesy of the Warner, we enjoyed seeing him with the Warner chief at the Culver Studio last week. Photographing is about as important in this series as Bobby Jones shorts as it is in Bobby Jones swing of the golf club. Perhaps Mr. Warner would like us to say more at this time, but we can appreciate his desire to let this splendid photographic feature rest until the series hits the screens of the theatres throughout the country, and when the average person for that matter, the extraordinary person, sees this series, he may not realize why it is different or not realize that the photography constitutes the big difference, but nevertheless we take our favorite sport and salute Mr. Todd.

GEORGE BARNES has moved to Burbank plant where he is in charge of the photography on the John Ford picture, which no less a authority than Fred Gage himself puts "Great!" And, boys and girls, Fred Gage says it is great, too.

JIMMY VAN TREES continues to photograph "Breadline" under the direction of William Wellman. Second is Lou Jennings, assistant Jimmy Trees, Jr., who is clicking away that spot.

CHICK MCGILL has a cameraman assignment for a cameraman on "The Prisoners", and is taking advantage of all the opportunities that the art director, has made available to him. Roy Del Ruth is directing "The Green" is the second and Whitley, assistant.

MERRITT GERSTAD, M. C. timer, has been added to the First National staff, and during the past month has been busy photographing sequences on the Jam Handy picture, "Reform School." Second cameramen were Ben Hower and Jack Kaufman.



# BULLETIN

EASTMAN  
FILMS  
80 TYPE

ms, in Cooperation with The International Photographer

WHO'S WHO!

## Paramount

ELNER continues on the etrich "Song of Songs" picture Mamoulian directing. Bill Frank Titus are the second Guy Roe and Bob Rhea are

TALLER is finishing "Inter-ouse" with Peggy Hopkins which was directed by Eddie The boys operating the are Bobby Newhard and Guy the assistants were Tom- Eli Fredricks and Charley

VER just started a nice as- musical, "College Humor", Wey Ruggles is directing. oy will do a bit of crooning Guy Bennett is handling while Tommy Morris keeps ing. Tover is in a rather pition; he alternates between d Paramount. His last one at as with Richard Dix in "The is r."

Y SHARP is finishing that job assignment, "The Beer the crew was Freddie Mayer, Ld Ahern and Johnny Eck- stons.

OF KRASNER has completed dicture for the Chas. Rogers y, "Bed Fellows." With him Hallenberger, as second, Elberg and Leo Hughes, as- rasner must be clicking gers unit because he has igned to his third picture.

U MARTINELLI has com- a very difficult photographic n one of those spooky pic- "Sternatural", for Halperin f Paramount release, Jocky al Roy Eslick were the sec- , while Eddie Adams and Al wr the assistants.

LL LANG and DAVE ABEL ve pictures and taking full r the time off.

## Columbia

WANER, old-timer at the Fox assted to Gower Street plant ad Studios and photographed k his picture, "Trail of the h was directed by George Wner's second was Henry d his assistants, Marcel nd Mike Walsh.

Y LINE has completed "Sa- n arted photography on the Hyer production, "The Open F. M. Brown is operating the w Fred Dawson and Jack dring the assignment as as-

Y METZLAFF is shooting r "Vives" under the direction ozzel. Andre Barlatier is the an Jack Anderson and Al ssants.

WAKER and JOE AUGUST n signed a Columbia feature d date scheduled for right ugust will be at the camera tit starting production at opatan Studios.

## Stellar Completes

umar has turned in an yed photographic job on "Betty" for I. E. Chadwick, was made for Monogram re- Johnny Martin assisted.

## McCord With Maynard

Ted McCord, who recently completed final production of a series of Westerns made by Schlesinger-Rogell for Warner Brothers-First National, is in charge of the cameras for Ken Maynard, Western star, who has launched his initial production of a series of ten for Universal, shooting at Universal City.

## RKO

CHARLES ROSHER is photographing Irene Dunne in "The Silver Cord" under the direction of John Cromwell. Charlie retains his old crew which has been associated with him on all of the Constance Bennett pictures since she has been producing for RKO, which means that Frank Redman is the second and Jack Cooney, assistant.

EDDIE CRONJAGER completed the Wheeler and Woolsey production, "In the Red", and before starting his next assignment at the Melrose Avenue plant is brushing up with paint and putty his house at Malibu.

ROY HUNT completed the Culbertson bridge series, where he had associated with him Russ Metty and Jeff Gibbons as seconds, and Willard Barth and Dick Duval as assistants. Hunt's next assignment will be another Bill Boyd picture scheduled to start immediately.

BERT GLENNON is photographing "Maiden Cruise", which Mark Sandrich is directing. At second we find Russ Metty, with Charley Burke as assistant.

NICK MUSURACA and JACK MacKENZIE are standing by for starting dates on assignments which they have received for productions starting at RKO in the very near future.

JOHN SWAIN, chief laboratory technician of the RKO Productions, has returned from New York, where he cooperated with the laboratory in first release prints of the Merian Cooper, Ernest Schoedsack, Eddie Linden, Willis O'Brien production, "King Kong", which opened with a loud bang at Grauman's Chinese late this month.

## Spanish Pix Finished

During the past month Fox produced two original Spanish pictures, HARRY JACKSON photographing "The Forgotten Melody", and clicking in a big way with the executives of the Movie-tone plant; and BOB PLANCK photographing "The Romantic Widow." This is Plank's third consecutive assignment at the camera for Spanish pictures produced by Fox. As a result of his excellent showing Bob has been assigned to a forthcoming feature production which will be handled by Sol Wurtzel.

## Roach Closed

ART LLOYD and HAP DEPEW have finished shooting the last two pictures on this season's program at Roach Studios, and while the Culver City plant is closed during the next six or eight weeks, both men will be assigned elsewhere.

## EUROPE CALLS HOLLYWOOD

Charles Van Enger Hops by Plane to Lead Threatened Exodus of Local Cinematographers

**M**ORE than a few prominent Hollywood cameramen are currently interested and in some cases, enthusiastically excited, with the prospects of showing their brother artists in Europe just why Hollywood photography is the standard at which other outstanding producers of the world are aiming.

First indications of renewed European interest came two or three weeks ago when local talent agencies approached several cameramen, asking their attitude toward possible production engagements in Europe. Chiefly mentioned

## M.G.M.

HAL ROSSON has completed photography on the production, "Man of the Nile" under the direction of Sam Wood, starring Ramon Novarro.

OLLIE MARSH has put the final camera touches to "Service", Clarence Brown's production. Eddie Fitzgerald and Kyme Meade continue as Marsh's favorite second and assistant respectively.

NORBERT BRODIN is standing by for next assignment after having completed "Made on Broadway", directed by Harry Beaumont.

ELMER DYER, the old cruiser of the airways, has been spending the past few weeks at March Field doing air sequences for "Turn About." This clever aerial photographer, whose reputation ranks second to none, has about as many actual air hours to his credit as the average air mail pilot.

RAY JUNE has been loaned to M.G.M. by Samuel Goldwyn Productions and will photograph, "When Ladies Meet." Picture direction by Harry Beaumont. Second cameraman, Les White, assistant Harry Parkins.

## Valentine Completes "Terror"

JOE VALENTINE has turned out final scenes on his shocker production, "Terror in the Night", which was directed by Ben Stollhoff for Bryan Foy Productions at Culver City. Valentine was assisted by Arthur Rankin. Picture is released by Columbia.

## Mescall Railroaded

Johnny Mescall (we refuse to mention his golf game) now gets a taste of ties, tracks and cinders while he is behind the camera on the Chadwick Monogram production, "Casey Jones." Production is scheduled to finish early in April.

## Educational Studios

DWIGHT WARREN and GUS PETERSEN have been turning out comedies here during the past month as usual, and as we go to press three new laugh jerkers are being placed in production with C. C. Burr, Arvid Gilstrom and the Andy Clyde unit starting any minute.

are British Gaumont and British International, with most of the agencies apparently interesting themselves in the requirements of the first mentioned company.

Charles Van Enger of Fox, who spent more than a year in Europe for that company and returned to Hollywood just about a year ago, was first of the candidates to receive definite contract assignment with British Gaumont, and hopped from Grand Central Airport Saturday, March 25th, for New York, where he arrived Sunday evening and sailed on the President Roosevelt for Liverpool, leaving New York Tuesday, March 28th.

Van Enger's ticket calls for fifty-two consecutive weeks with British Gaumont, where at the present time Glen MacWilliams, another old timer of the Fox camera staff is chief of the photographic department. MacWilliams left Hollywood about six months ago, and within three months after his arrival to take up his new duties with British Gaumont, was given complete charge of his division.

If we may judge by our contact with cameramen at practically all of the major studios, it would seem that the British producers are not overlooking any photographic bets. Practically every photographer to whom we have talked during the past week or ten days has been approached, either directly by letter or cable or through local talent agencies, and negotiations are now being carried on by at least six of the leading members of the Hollywood camera craft.

It is interesting and in order to note that in our discussion with these candidates, who are seriously considering European assignments, as well as with others to whom the proposition has been broached, there is no great feeling of uncertainty as regards the future of Hollywood production. The general attitude is one of optimism, and most of the men feel, with apparent justification, that while at the moment we are in the throes of a rather hectic situation, this will shortly clarify to the renewed and increased advantage of everyone concerned in the production of pictures.

Those who have indicated a willingness or desire to take a fling at European production seem to be of one common opinion, that at the outset they would like a change of scenery and associations and environment, and without exception they feel that even though Hollywood leads the world as far as picture production is concerned, it is just possible that they may learn something new in the European studios, and thereby improve themselves and the quality of their production.





*It is hard to believe—that this is the shot of a motion picture studio set. The artist whose imagination posed and photographed it is Anthony Ugrin and the picture in which it is one of the scenes is entitled "Zoo in Budapest," a Jesse Lasky production for Fox Films. Gene Raymond and Loretta Young are starred.*

## Stereo-Camera

Andre Barlatier, a member of the International Photographers and one of the pioneers of the motion picture industry, is the inventor of a camera which he terms Stereo-Camera.

It is protected by a basic patent covering 22 claims and its rights are vested in Mr. Barlatier who will undertake its manufacture as soon as the economic situation is favorable.

Mr. Barlatier is also the inventor of that charming and interesting plaything, the Filmoscope, a device which gives to motion picture films three dimensional or stereoscopic qualities and effects.

This Filmoscope is hardly larger than a man's bill fold or cigarette case. It suggests the old time stereoscope of our grand-parents' days and it may be carried in the vest pocket. It is merely a stereoscope in collapsible form through which 35 mm. film is run horizontally from left to right, the pictures being photographed on the film sidewise.

If desired the film may be projected on a screen with full three dimensional effect by mounting the Filmoscope on a small lamp house with two light sources. In this case the observer must view the screen through red and green goggles to get the perfection of stereoscopic effect and color.

The Filmoscope is owned by the Filmoscope Corporation, a corporation organized under the laws of the State of Nevada on the 18th of July, 1929, authorizing ten thousand shares of stock, no par value. Mr. Barlatier controls it.

To secure the best results in photographic film for use in the Filmoscope Mr. Barlatier found it necessary to build a specially designed camera and his Hollywood Stereo-Camera is the answer.

This is a small camera of attractive design and equipped with a focal plane shutter on the graflex principle, fast and productive of very sharp photography.

It is 9 by 2½ by 2 inches in dimensions yielding pictures on the film 15/16 of an inch high by 13/16 of an inch wide. The camera will carry a cartridge of film containing 17½ feet which will take 90 to 100 complete stereo-pictures without reloading.

The camera is built around the new type of focal plane shutter developed by Mr. Barlatier and it is entirely without gears. It is of simple construction and may be manufactured in quantities at an amazingly small cost.

Our inventor, as a part of this equipment, has fabricated a printing machine which he claims has great possibilities. It is constructed along new lines and will be described in detail later together with the camera.

## The Right Number



*This up and coming son of Mr. and Mrs. Martin Glouner is apparently trying to get the right number. We're going to watch and if he gets it we're going to take it away from him.*

*His name is Richard.*





*Wally Albright is the boy—Rajah is the elephant. Both are taking it easy between scenes of "Zoo in Budapest," a Jesse Lasky production for Fox Films. The two are great friends. This still was photographed by Anthony Ugrin.*

#### JOAN RAELLA ARRIVES



*Introducing Joan Raella Jones, daughter of Ray Jones, head stillman at Fox Studios, and Mrs. Jones. Raella already seems to be a bit wearied with the world but then she had been here only twenty-one and one-half hours when the proud daddy shot this delightful picture.*

#### China Charges that Our Pictures Are Undermining Their Best Traditions and Customs

This interesting comment upon our pet industry is credited to C. Bos, delegate for China to the International Institute of Educational Cinematography in an article entitled "The Condition of Cinematography in China." From the International Bureau of Educational Cinematography published by the League of Nations, in Rome. Says Mr. Bos, in part : . . .

The Chinese intelligentsia, while fully realizing the possibilities of the cinema as a potential factor of civilization and social elevation, trace the modern social evils of Shanghai and other cities where the imported films have penetrated, to the debasing influence of the screen. The vernacular press has often dealt with this subject and deplored the demoralizing effect of certain films and the evil habits they suggest to the younger generation. In this connection I cannot do better than quote part of a letter from my old Chinese teacher Wang Ting Chang of Tientsing, an enlightened scholar of the old school, whose opinion I sought on this engrossing subject:

"Remember the words of our celebrated statesman Wen Hsiang addressed in 1860 to your foreign ministers in Peking: "You foreigners are too anxious to awaken us and urge us on to the path of progress and you will succeed; but you will regret it; for once

started we will proceed rapidly and go far, farther than you believe at present and farther than you would wish us to go." In fact, while your idealists are preaching the unity of mankind, world-mindedness and international peace, owing to your murderous machine guns, tanks, guns and flying machines, which you are importing into our country, our civil wars have developed from mere guerillas to national calamities involving tens of millions of the Chinese people. Where do the tens of thousands of brigands, who constantly infest our country obtain their modern armaments from? Your leaders boast of your material wealth and achievements, but they neglect to educate the minds of your peoples to higher ideals of humanity, otherwise how could your last great war have happened? How have your vaunted Christian principles, which you insist upon propagating among us, helped you in averting calamities?

"As to the influence of the cinema on the minds of the Chinese people, this latest of all your inventions is undermining the best traditions and customs of our ancient social structure. The prominence given in your films to adultery, divorce and laxity in morals is destroying our admirable family life which has stood the test of millenia; your kissing scenes, your exhibitions of nudity and obscene dancing on the screen are demoralizing our lower classes and excite the passions of our boys and girls beyond resistance; your crime stories have taught our kidnappers, robbers, thieves and bandits how to use revolvers, how to circumvent the police, and how to utilize the motor car in their nefarious trade; the dancing halls and night clubs which have come in the wake of the cinema and are invading the country from Shanghai to Chengtu and from Mengtze to Kirin, are undermining the morality of our boys and girls. Indeed the list of evil habits and customs that can be traced to your film screen is a long one. As to yourselves, can you not see that this shameless exhibition of the bad side of your cinema and jazz civilization does not stimulate respect among our masses for the foreigners in our midst?"





*Martin Glouner is responsible for the lighting and photography of this wonderful miniature of New York-Manhattan. Note the detail of construction and size of the workmen relative to the buildings around them. This miniature is from the Universal production, "Broadway," and is an example of the best construction of its kind. In the May issue of THE INTERNATIONAL PHOTOGRAPHER another miniature from the production will be published, also a shot from Martin Glouner's facile box.*

# NEWSREELERS' DOPE SHEET

By RAY FERNSTROM

*All Rights Reserved*

Now that Eastman is about to put on the market a Supersensitive Panchromatic Negative Film for the amateur box Brownie Cameras we are going to enlarge this department, to help photographers.

So, from now on, everyone, regardless of whether he or she, uses a tiny box camera or huge studio motion picture outfit, there will be at least something of interest on these pages.

This new negative will enable every photographer to obtain professional results and get a world of new fun out of the old camera. A few words of instruction must be followed. First: Be sure to load your camera in a shady spot, keeping the roll tightly wound when loading or unloading. Paste the bit of black tape that comes with each roll, attached to a bit of white cloth, on the outside of your camera over the little red window through which you view the numbers on your film. Lift this off, only when you are turning up to the next picture.

Be sure to tell your photo finisher that your pictures were made on Supersensitive Panchromatic Negative, so that he does not accidentally ruin your scenes with a red light in developing. This negative, being sensitive to nearly all colors will fog when exposed to a red light.

Filters will enhance the beauty of photography possible with this negative, so we shall give you, from time to time, helpful bits of information to aid you in getting the best results.

To begin with let us try the Aero 2. This is a yellowish filter made of

gelatine sheets. You may find that the Aero 2, or other filters we designate, are sold under other names, but the color is the same. With the Aero 2 your clouds will begin to stand out in contrast to your sky and add materially to the beauty of your picture.

To use a filter on a box camera merely cut a piece of gelatine to cover the lens on the outside of your box. Then tape this piece to the box with a thin strip of tape around the edges. With a box camera, using this new sensitive panchromatic negative, you should acquaint yourself with those two little catches that appear on top of the box above the lens. The smaller one is to be pulled out for time exposures. When this is extended, a flick of the trigger will open the lens and after the desired exposure, another flick will close the lens shutter.

Now to look at your glass lens pull out this smaller catch. Then flick the trigger. Now your lens is in view. Pull the larger catch above the lens, out to its last notch. You will notice that it has three holes of varying sizes. Familiarize yourself with the sizes at the different notches. You can feel the slide stopping at these notches as you pull it out. For all shots in bright sunlight use the smallest opening and when you use the Aero 2 filter in bright sunlight use the middle opening.

After using the Aero 2 filter for a while you will be familiar with its use. Then you may desire even

greater contrast in your clouds against the sky. Try the 23A, a red gelatine filter that gives excellent pictorial quality. Use this with your largest lens opening, just as you are shooting most of your snapshots now, with the present films you buy in the drug store.

For vest pocket and other folding cameras follow the above instructions, but your lens is mounted differently, with different markings, which we shall now discuss.

Open your camera. You have on the baseboard a footage indicator. This should, as you know, be set before each picture to the correct number indicating the number of feet you are standing from the subject to be snapped. Under your lens is a little sliding scale with such numbers as 6.5, 8, 11, 16, 22. These indicate the different size openings of the dia-





*Elwood Bredell, still man with the Paramount Studios, likes to pick up occasionally a bit of interesting production stuff while he waits for the opportunities grudgingly accorded him (and all still men) to snap the precious stills that sell the pictures. This is a scene from "Monte Carlo." Note the lighting and careful grouping of the actor folk. Can you locate the cameras at first glance?*



phragm within your lens. The smaller the number on your indicator the larger the opening will be.

Most snapshooters make pictures with this indicator half way between all the numbers, in the exact center. Good results are on an average obtained. When you now use a filter, in this type camera, unscrew the lens from its holder. Holding the front part, next unscrew the back part carefully so as not to drop the glass out. Cut a round piece of gelatine to fit in between the two elements of your lens and screw the parts together. Allow a larger opening for your lens to allow for the amount of light that your filter absorbs. On the Aero 2 allow a number and a half larger opening.

We'll say that you plan to shoot at 11. Open your lens aperture to between 8 and the next smaller number on your indicator. These numbers may vary, but the results, will be the same. When using the 23A open up your lens aperture two full numbers, or stops, as we call them here in Hollywood. Remember, the smaller the number on your indicator the larger the opening will be. The smallest numbers give the most light on your film.

The speed of your shutter is determined by turning the little round indicator above your lens; the one with T, 25, 50, 75, 100, meaning 25th of a second 50th, 75th etc. This is for time exposures when you wish to open the lens and leave it open for a length of time. The shutter is then closed by again flicking the trigger. All time exposures must be made with the camera very steady on a box or tripod.

A fine average exposure can be made with the shutter speed indicator set at 75. If you have no 75 use 100 or 50, but be sure to hold your camera steady for 50. A steadier picture will result from a faster shutter action, such as a 75th or a 100th. Of course sunlight is essential for a hundredth of a second exposure. Experimenting

will help you most in determining the best setting to use. If your negative is too light allow a little larger lens opening next time, say one smaller number. Find your favorite shutter speed and then set your lens openings to allow for more or less light on your next try. If your picture is blurred you either moved as the snap was taken or your distance scale was incorrectly set. If you had been snapping action such as a moving car and the picture blurred your shutter action was not fast enough. A 100th will catch average action nicely.

If you wish to see the results with a 23 A red filter watch the newsreels. You will see a picture of Uncle Sam's navy on parade off the coast of California. Those scenes wherein the clouds stand out boldly were shot using the 23A filter. Most all newsreel scenes where the clouds are as bold and beautiful were made with red filters, of which, the 23A is the most practical.

Newsreel men who have been using the Aero 2 on closeups of people, will no doubt be even more enthusiastic, with the 5N5 on such closeups, where there is great contrast in lighting on the subject. Open up three full stops on this one and your background will also go out giving your subject the best advantage possible.

This department would appreciate any inquiries as to the use of film, cameras and filters. Here in Hollywood we have the pick of the world's best in both information and material, and we strive to please you, our readers.

RAY FERNSTROM  
An International Photographer

#### SAVITT'S BIG JOB

Sam Savitt, member of 666, Chicago is in Hollywood on business connected with the filming of a big picture for the Southern Pacific Railroad. The completed film will be a moving panorama of scenes on the way from Chicago to Los Angeles along the route of the S. P. It will be exhibited

at the approaching Chicago World's Fair.

#### IMPROVED MITCHELL FINDER

The Mitchell Camera Company announces a new adapter lens for their finder, which will double the field of view. This improvement is particularly useful when using long focus lenses on the camera.

This makes two adapter lenses that Mitchell has devised, the 25 m.m. and this new one.

The finder also has as an integral part, the new adjustable matte, controlled by two graduated dials. The matte consists of metal cross-strips that frame the picture and so constructed as to permit the viewing of the surrounding field. The dials are graduated for various size lenses with provision for adjustment when necessary.

#### HARD TO BELIEVE

Lindsey Thomson has just completed the still work on "City Hall," a William Burke picture for educational release. While on this job Mr. Thomson met with something remarkable in the way of a leading man. His name is Preston Foster and he liked to have stills shot of himself. One night he waited 45 minutes to permit Lindsay to get a shot. Hard to believe. Bob Cline was chief cinematographer.

James N. Giridlian, an International Photographer resident in Pasadena, reports the organization of The Foothill Pictorialists, a group of photographic fans who live in the great open spaces.

Mr. Giridlian, who, by the way, has the finest iris gardens in California, is president of the new group and Mrs. Hortense Kreyser is secretary. The Foothill Pictorialists are greatly interested in 16 m.m. cinematography and some of them are experts in this field.





*Mary Astor is one of the most skilled and enthusiastic amateurs in the world of 16 m. m.*

# THE REALM OF 16 M. M.

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[Our 16 m. m. department is a bit scattered in this issue because of the late arrival of new advertising matter.

The features for April are the article on "Lighting," by Lewis W. Physioc, and that on the fundamentals of motion photography by George J. Lancaster. Both of these writers are members of the International Photographers.

Mr. Milton Moore will be in our May issue with his Questions and Answers, and Mr. Lancaster, also, will make answer to some of the pregnant inquiries of our 16 m. m. correspondents.—Editor's Note.]



*This study in plastic sculpture made by Edward Kearns, member of the International Photographers, certainly proves that a cameraman can be more than one kind of artist. Edward finds time between studio engagements to study art at the Chouinard School. The accompanying figure represents his second attempt. Mighty good, Edward. Keep it up.*



### Wipe-Offs

An interesting development in the art of scene change technique is the special effect changes or "wipe-offs" which to a large extent has replaced the straight cut, the lap dissolve and the fade in and out of scenes.

We have noticed the different effects such as windshield wipe-off, from any direction; the different center source changes; the spiral growths, the paper tear aways, the explosive puff changes, etc., etc.

Howard Anderson, one of our well known trick cinematographers, claims to have, perhaps, furthered this vogue more than anyone else. He recalls some interesting incidents. For instance, four years ago Cecil De Mille upon viewing some of Anderson's wipe-off scenes for De Mille's "The Godless Girl" ventured that a wipe-off was good only for comedy. Now observe any present feature including his own latest masterpiece.

But Anderson's biggest push for the wipe-off was the showing of a reel of these effects at M.G.M. to Director Fred Niblo, who, very much interested, requested Anderson to come by appointment and meet one of the studio executives for another showing. This also was several years ago. He did so and upon entering the projection room found it crowded with everyone who might be interested in a new development. The showing brought to Anderson an immediate offer of a job, but he already had one. However, the wheels of progress kept moving. Not long after this Anderson viewed "The Trail of '98" in a theatre. Lo and behold! Wipe-offs! This was the first feature, he believes, to show them. "I've started something," thought Anderson.

### PATENT NO. 1,372,811

This patent was issued March 29, 1921 to W. L. Hall under the title of, "Method of Making Pictures." Of the many claims listed here are a few that may be of interest to some of our readers:

"The term 'miniature' wherever used throughout my specification or claims is understood to refer to that class of objects which includes paintings, drawings, physical representatives or other artificial replicas of every kind known and utilized in the art of photography and motion pictures.

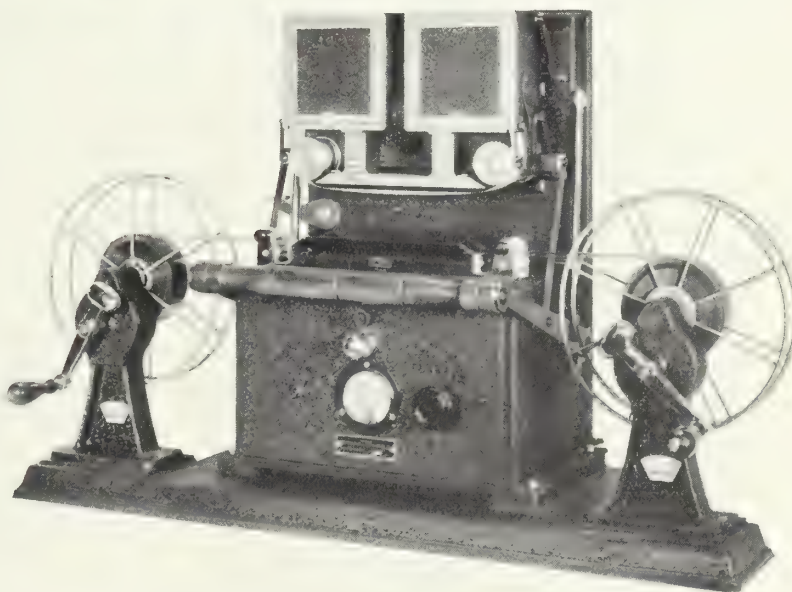
"The miniature may be a small scale model of objects desired to appear in the final picture or may be in the form of a picture painted or drawn or otherwise produced on a panel of any suitable material, for instance, on an opaque panel of compo board or other suitable material and a board backing therefor, or glass or other transparent material.

"The method of making moving pictures which consists in placing a miniature in the foreground of a scene lying within the field of view of a cinematographic camera, causing action to take place in the portions of the scene not obscured by the miniature, and making a series of photographic exposures of the miniature and the action and the portions



## "ARTREEVES"

DEPENDABLE  
SOUND RECORDING  
AND  
LABORATORY EQUIPMENT



"ARTREEVES" LITE-TEST MACHINE

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of the scene not obscured by the miniature.

"The method of making a composite photograph which consists in placing in the foreground of the local scene a miniature picture of a scene foreign to the local scene and corresponding in tone and perspective to that portion of the local scene obscured from the focal range of a camera by the miniature, and photographing the local scene and miniature simultaneously."

### Co-operation

There is one situation or phase of the photographic craft against which hundreds, nay thousands, perhaps millions of curses have been voiced. By whom? The director, the business manager, the head cameraman, the stillman. Who else? Why, the pub-

licity man, the salesman, the exchange man, the exhibitor.

So often nowadays a stillman trying to get his shot is to be pitied. When a stillman asks for a shot why is there so often a hostile chill set vibrating? Many times the answer is "NO!" Sometimes the encouraging reply is: "You have to shoot a still now! Always interruptions. All right; hurry up and get it and get off the set!"

Is such a situation encouraging to a stillman to earn his salary? NO! Is it going to help sell the picture? NO! Is it going to help bring money into the producer's pocket? NO! Obviously such crass stupidity should be eliminated. How? Co-operation!

Let us get together and make an issue out of it. Suggestions are in order. Give the stillmen a break.





# Lighting *the* MAGIC of Cinematography

By LEWIS W. PHYSIOC

[This article from the facile and learned pen of our own Mr. Lewis W. Physioc is not new but is called forth by request and is this time particularly addressed to those earnest souls among the 16 m.m. operators who want to sit at the feet of the master and learn to do things as the skillful professional does them. It was first published in the A. S. C. magazine several years ago and was reprinted by Bell & Howell and others. It is the personal property of the author—Editor's note].

The accompanying pictures are a series of photographs of the head of the celebrated "Venus de Milo." They were designed to illustrate how different lightings may change the character of the subject; destroy or preserve beauty, exaggerate or subdue blemishes, aggravate or favor the signs of age.

This would seem to be a matter of supreme importance, especially to our feminine stars, for the question becomes most serious as the years roll by. It becomes almost tragic when they have reached that glorious age which combines the fullness of womanhood, maturity of character, compelling personality and dramatic experience, all of which combine to make them great artists, when they find all this pitted against the smooth, youthful faces of the ingenues.

These wonderful women are continually taunted by that old bugaboo of a phrase "the camera never lies" and it is in their interest that we will endeavor to show that the camera may become the greatest liar in the world.

For many years some of our stars have been under the delusion that their best appearance on the stage was dependent upon an excess of flat light. How often we have heard the expression among the cameramen: "I have to burn her up."

Let us study the subject carefully and see what we can learn for the benefit of our stars. There is an impression among many of them that any degree of modeling or shading produces a muddy, dirty face on the screen and discloses age. This is an erroneous idea—it is muddy high lights that give the dirty appearance. Character lines and signs of age can be beautifully smoothed out by soft lighting; it is the cast shadows from strong, direct light that does the damage. In the proper place we will distinguish between the shade and shadow. There is an axiom that we cannot assail and it is this: Picture making depends upon light and shade, but we know also, that the best results demand a proper distribution of these elements, light and shade. There is no beauty in a white, flat surface outlined against a background. The elements of beauty in a face are nature's mould of the features, general coloring, the expressions of the intelligent features, the eyes and mouth, which are so much influenced by the development of character, the evidence of temperament and personality and above all, the soul that shines through all—and these marvelous elements can just as easily be burnt up as the purely physical imperfections in the skin texture. How can we expect to find a beautiful woman in a pair of eyes straining to keep from blinking under the glare of too many "inkies"—the lure of dainty lips lost in a flood of flat light? The portrait of our goddess is usually represented by a pair of squinting, bloodshot orbs, two black spots marking the nostrils and a dash of rouge for delicately modeled lips. Must we call this feminine beauty?

Now there must be some simple rule that we may deduce from our study of this subject—some broad, funda-

mental fact that we may easily keep in mind, and we suggest a natural law that artists in all ages have recognized—it is this simple certainty that the stronger the light the harsher the shadows and the harsher the shadows the more prominent the imperfections, whether these imperfections be faulty mould of the features, a mole, wrinkles, pimples or other excrescences of the skin.

The recognition of this rule, then, naturally leads to a more detailed application to insure the most artistic results. The critical study, over a period of many years, has resulted in a general agreement among artists that these harsher effects of strong light and shade are sometimes suitable for rendering dramatic and spectacular ideas but that the more delicate forms of beauty should be lighted with more softness and plasticity. This last idea of lighting is not an easy thing to accomplish. It requires skill in the placing of the light, a thorough knowledge of the quality of this light and a very refined taste and judgment as to the intensity of the lights and the depth of the shadows. The general illumination should be sufficiently soft to permit freedom of expression in the eyes but brilliant enough to avoid muddy lights; so highly diffused as to produce no cast shadows and so arranged as to furnish the proper modeling, upon which the reproduction of beauty absolutely depends.

In lighting a head we have five well defined elements, and it is the arrangement of these that demonstrates the talent of the photographer. They are Lights, High Lights, Shade, Shadow and Reflects. First, let us distinguish between shade and shadow. Common definitions do not furnish a satisfactory distinction between these two terms, but to the artists and photographers there is a wide discrimination. The artist defines shadow as the result of an opaque body intercepting the passage of direct light, leaving a dark contour of the object on the surrounding planes. This shadow is composed of two densities—the penumbra, that portion of the shadow that lies near the edge of the shadow and which is slightly illuminated by rays diffracted around the edge of the body casting the shadow; and the umbra, that portion not reached by any of the diffracted rays and left in total obscurity. This umbra controls the contrast of a picture and, as before mentioned, it is directly proportionate to the intensity of the light. The modification of this umbra, by reflection, is important.

The shades are those portions of the subject unilluminated, and like the shadows, may be modified by reflects.

The lights of a picture are those areas subjected to light and are, in turn, modified by high-lights—points of light of greater intensity than the general lighting, thrown on the protuberating features to produce relief.

From all this we deduce another principle; artistic results depend upon the proper quality of light and its skillful arrangement. Now in selecting the quality of our light we must revert to our primary consideration, the fact that harsh shadows are unfavorable to the reproduction of the face, and that the only light that does not cast shadows is that which is highly diffused. Here we are confronted with a grave difficulty. For many years, the good old North light has been considered the ideal source, but modern expedients have forced us to desert this form of light.

In the early days of photography before the use of panchromatic films the multiple bank of Cooper Hewitts furnished a finely diffused light, but they have now been





II



I



IV



III

A



V



II

B



IV



I

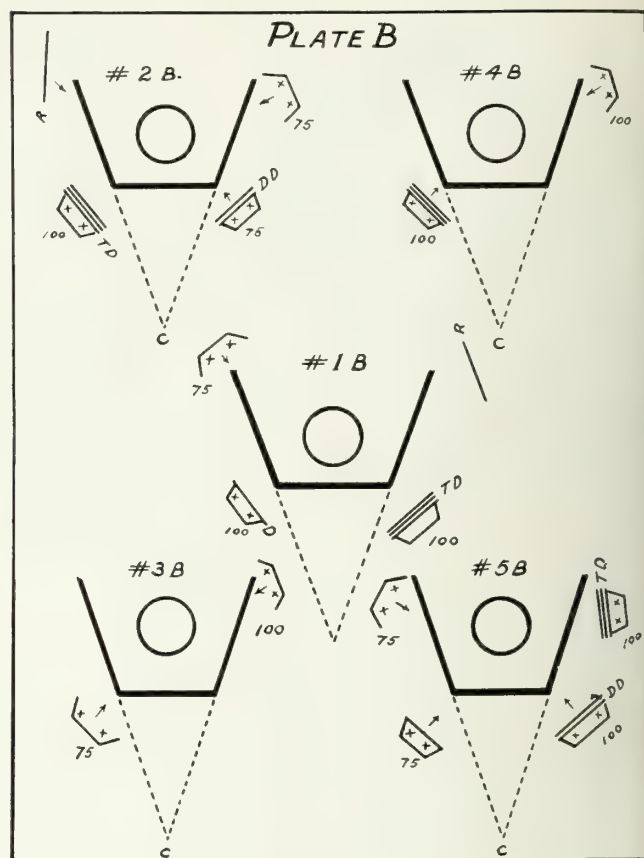
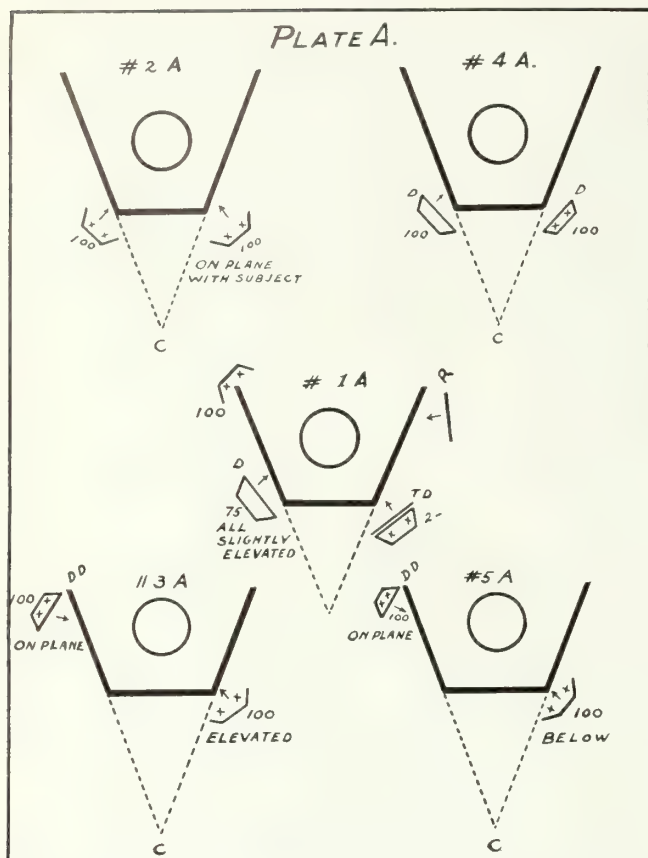


III



V





entirely discarded because their spectral quality of light is counter to the provisions of the modern panchromatic emulsion. The new film is designed to permit of the use of incandescent light but we find that the new system of lighting presents an important problem of being able to furnish sufficient diffusion without too great a loss of light. This difficulty lies in the fact that a direct source of light casts its individual shadow, and no matter how much we may silk them down (cover them with diffusing mediums) there is always that active source of energy that casts the baneful shadow.

Note this as a point of consideration: The necessity of using more than one glowing element to insure the proper exposure, imposes an equal number of cast shadows, and it is the multiplicity of shadows that impairs the modeling.

With the aid of modern lenses and panchromatic film we are looking forward to the time when someone will be bold enough to make some experiments with matt surface reflectors as the basic source of light, especially for close-up work, in lieu of direct lighting. Surely we have been given sufficient hints of the value of indirect lighting.

For the benefit of those who still believe that to preserve their beauty, it is necessary to burn out the blemishes with a blaze of light, it is our humble opinion that there is more security in Dryden's ancient lines, as true now as when he wrote them:

"Tis every painter's art to hide from sight  
and cast in shades what seen would not delight."

In the accompanying cuts, Plate A shows various treatments of the full face, and we may learn something by studying each individually:

No. 2A—Shows the lovely Venus transferred into a stupid, gross featured, flat nosed, blear-eyed individual. Note the ugly cast shadows, from the nose across the cheeks; and also, how well defined are the imperfections on the surface of the model. This effect is achieved by the popular burn-up method of throwing strong, open lights at the same angle, across the face. The whole is flat and uninteresting.

No. 4A—Is a similar effect, except that the photographer has thought to help the situation a little by diffusing the light. However, it is still flat and uninteresting, due to

too even a distribution of light. See how broad is the bridge of the nose, the eyes still dull and stupid, the mouth thick lipped and sensual and the surface of the face blotchy.

No. 3A—Is more engaging, but is harsh and contrasty, and tends to destroy feminine delicacy by suggesting more an Adonis than a Venus. Observe the sharp, square cut of the nose and the eye sockets. However the eyes begin to assume a little expression—they are enveloped in shadow and the imagination comes to the aid of the plaster Venus. But study the surface—there is no disguising the fact that she is nothing more than cold, hard plaster.

No. 5A—Here, the photographer has attempted to burn out a little fullness under the chin that seems not to have worried Venus, but annoys some of the present beauties. This method may accomplish its design, but see what else has happened—it makes Venus' right cheek appear inflamed with the tooth ache and her expression gives evidence of pain—her eyes are rolling up in her head and her nostrils are twitching in her paroxysm.

No. 1A—Shows the ideal system of lighting. All the features are softly rounded and modeled. The lovely work of this ancient and unknown sculptor is preserved and reproduced in all its feminine delicacy and charm. Compare the beauty of the lips and the sweetness of their expression to the other reproductions. Study the dainty modeling of the nose, how round and shapely the head and we can almost feel the presence of the eyes. But most important of all, the imperfections on the surface of the cast are hardly noticeable and there is almost a feeling of flesh rather than the hard, cold plaster-paris.

#### PLATE B

This group shows the three-quarter view. This is an interesting pose of the head from the standpoint of drawing but presents a broad, flat area of cheek, which is not easy to keep from appearing flat. The pose is generally used under the assumption that one side of the face often appears more favorable than the other.

No. 2B—Is softly back-lighted and the right side held in shade to present a little mystery to the imagination in taking care of the broad area of the cheek, also to hide an ugly blotch on the right cheek.





No. 4B—Is the same pose, lighted too contrastily and gives a sharp, angular effect down the center of the face.

No. 3B—In this picture, the few pleasing points of the two preceding lightings are destroyed and no semblance of effect remains, due to too strong and direct a light on the right cheek. Note how the blotches show up as soon as the harsh light is used, also the rough spots and deep, ugly shadows on the left cheek. Observe also the unbalanced expression of the eyes and the lack of any feeling of distance between the extremity of the nose and the right ear. This is just as apt to happen in photographing the living model.

No. 5B—Here, the small area of light is held in shade and an attempt is made to throw the eyes in the shade to create expression and an apparent direction of vision. This scheme of lighting is favorable to light blue eyes. That portion of the cheek which bears the ugly blotch, is also shaded and there is beginning to be a feeling

of roundness and distance between the nose and the ear.

No. 1B—Here there is a perfect sense of roundness. Note how the two cheeks seem to lead around to the back of the head. Observe the delicate modeling of the eyes and lips. The living model would require a little stronger reflected light in the shaded portions, but with the cast, too strong a reflection would give a crossed effect of the eyes. This, like No. 1A, is a very fair representation of the work of the great and unknown sculptor and all of these different lightings show that the camera can become a great liar.

We do not deny, however, that for dramatic reasons, some of these effects may be desired rather than avoided, and for those who may be interested, we offer a series of plans showing each arrangement of lighting:

- 100 represents the full open unit.
- 75 a lesser amount, undiffused.
- D the full unit with one diffuser.
- DD the full unit with two diffusers.
- TD the full unit with triple diffusers.
- R reflector.

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Art Reeves has perfected an automatic mixing control which should prove of interest to all sound engineers. By its use the voice will automatically predominate over background music and effects.

A device such as this has long been the aim of sound engineers and it is understood that one of the major studios is now using a method such as this in its production. However, Art Reeves claims his device to be the only one manufactured independently and is adaptable and available to all users of ArtReeves' equipment.

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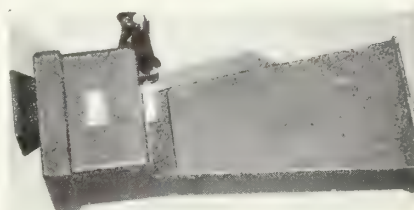
Hollywood studios represent a capital investment of approximately \$95,000,000.

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They also have their investments here.

They like to live here, for reasons apparent to anyone who has felt the joy of residing in Hollywood and vicinity. They are not afraid of earthquakes. Earthquakes have quaked all around Hollywood for many years, but Hollywood and Los Angeles have never suffered appreciably in loss either of life or of property.

The east, south and middle-west suffer every year from floods and hurricanes and marine disasters—Hollywood has none of these, but about once in eight years it has the thrill of feeling the secondary vibrations of a temblor, if you know what that it.

Also, there is no mud, slush, ice or zero weather here; better food and fewer liars.

See Romans III-4.

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# Working for the Fun of It

A Call to Give the Stillman an Identity for the First Time in His Life

By JAMES N. DOOLITTLE



**HOLD IT FOR A STILL!**

*The importance of correct stance cannot be overemphasized even in photography.*

All of us are born in labor, some inherit jobs and others have work thrust upon them. Certain individuals toil in order to accumulate enough of what it takes to tide them over until they get their next assignment—if and when—and there are those bound to their stints through ties of marriage or consanguinity. Again there are those who work for the pure pleasure of doing something. Some of the latter are still-men to whom I address myself with a "Hi, Brother," for I am one of you.

Not that the coroner will one day pronounce my demise due to overwork, exactly, but, by and large, I am intensely interested in my chosen vocation and, if the yoke weighs upon me more heavily at one time than another, it is because there is no way of avoiding the monotony of "line production," if you get what I mean.

At least there wouldn't be if it were not for one agency—my hobby. I have been transmuting the inverted images upon my ground glass into cash or negotiable specie for so many years that I am beginning to consider myself an old-timer although I do not date as far back as the period when the photographer had to dunk his plates in the silver solution just before exposing them nor had I begun to take an active interest in motion pictures at the time Colonel Muybridge was hailed as a cinematographer of some promise. So photography is my hobby and the means whereby I manage to keep my bread pretty well buttered—thinly, at times, but still buttered. But this isn't intended as an autobiography and the uppcase, first personal pronoun will not be employed from here on.

"Working for the fun of it" does not, in its present application, imply laboring without remuneration and "toiling for the pure pleasure of doing something" is not to be taken literally as a gesture of unalloyed altruism for, in seeking to establish a point, the fact is not overlooked that even a photographer must eat. In a less roundabout manner I (there's that "I" again) mean simply to suggest capitalizing the pleasure which may be latent in the occupation that at

times has a way of becoming unutterably dull. Turn the job into a hobby and let the production budget pay for your fun!

You've heard of the postman who goes for a hike on his day off and maybe a taxi driver has been known to cruise about the downtown streets in his own car for relaxation during his spare moments, but the photographer who packs up his camera and goes out to take pictures for pleasure is a comparatively rare species. He is as rare as the pleasure that goes only with an intense liking for the thing with which he gains a competence.

Your daily routine is the business of producing a pictorial commodity according to a pretty well established formula which shows no easily distinguishable evidence of varying during the next couple of decades at least. I state this time with some assurance for the past two have witnessed no startling advances in the conceptions, requirements or application of still pictures. Important improvements have indeed taken place from year to year, but those are as much attributable to the manufacturers of photo supplies as to the skill of the men responsible for turning this material into pictures.

I do not reflect one bit of discredit upon the motion picture still man when I make this sweeping statement for he is not permitted to exercise the free expression of his individuality on account of the restrictions of the "front office." The front office is concerned with the matter of securing such stills as will adequately represent the action of the drammer so

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the Eastern office can sell the piece to the exhibitor.

A happy situation! Make the proper exposure, avoid faulty focus, don't show too much movement, turn in plenty of stuff so the man up front will see that you've been working and you fulfill every requirement of your job. Don't argue; just look at the stills in the lobby of a theatre where the picture of another studio is running. They look just like yours—no better, no worse. Or look at the stuff the other boys are doing right on your own lot. Just like yours—no better, no worse or one of you would lose his job. If you don't think so, the office does—which is the same thing.

This wasn't intended as a lecture either. I'll get to my point. For a long time I've had an idea in my head which my ego permits me to think is a good one and some weight is given to my claim by the fact that it has found successful application in other instances. In a word, organize.

The cameramen did it and became cinematographers. You can do it and become photo-pictorialists—lens masters, if you choose. This plan has nothing to do with the industrial situation, of course, and does not seek to parallel the functions of the Local; it must be purely "for the fun of it" a more or less informal group of the more seriously constituted men devoted to photography as a medium of artistic expression.


In its workings it should provide a stimulus for the creation of improved technique, a medium for the interchange of ideas and an agency for the raising of the general standard of pictorial endeavor. It will serve to create a new interest among the older men in this branch of production and the younger or less experienced will find a goal and be helped towards its attainment.

Roughly detailed, the manner of getting under way would first be a general call to assembly of all men tentatively interested in such a project and at which time a director and secretary would be elected. Time and place of subsequent periodical meetings would be decided and the aims and purposes discussed.

It would be well to decide not to become too formal—avoid rules and regulations, constitutions and by-laws—instead formulate such agreements as may serve general purposes and make them sufficiently elastic to permit flexible adaptation to needs as they arise.

As time goes on, it will probably occur to the members that the spirit of competition is a wholesome stimulant to increased activity in furtherance of which exhibitions will be held. Interest would be enhanced if a point were made to publicise the creator of meritorious work. Give the still-man an identity for the first time in his life.

The subjects for competitions can be made to vary from time to time—portraits one month, say, then general subjects. A comedy assignment followed by landscapes would vary the fare and all material should be obtained from any source whatever—



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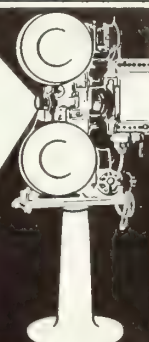
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preferably **not** from work in "line of duty."

Liberal participation in photographic saloons held in various parts of the world would be found to add a new interest to activities of the group especially as it is a truth that almost no work from the great motion picture industry finds its way into exhibitions!

An annual salon composed solely of member's work and held about the time the Academy dishes out awards for this and that might draw attention to the stillmen and in course of time such recognition would be accorded that some genius would be given the Academy award for the best still picture of the year. Just

think of the thrill of getting into the soup and fish and showing up at the Biltmore and being handed something besides the Bronx razz for being a stillman!

The thing has potentialities too great to be ignored. It will mean hard work for a certain few, but the reward will be liberal and collectable in terms of a tremendous amount of satisfaction which will in time deserve recompense of a more material nature.

And I believe the ultimate working out of an organization such as I have sketched will illustrate what I mean by "working for the fun of it."

### "SECRETS"



United Artists production; director, Frank Borzage; writers, Rudolph Vesler, May Edginton, Frances Marion, Salisbury Field; first cameraman, Ray June; operative cameraman, Stuart Thompson; assistants, Hal Carney, Jimmie Hackett and Ellis Carter; stills, K. O. Rahmn; sound, Frank Maher and Charles Noyes; electrician, W. J. McClellan; film cutter, Hugh Bennett.

New York Evening Post: It is all carried off with grace and gentle humor, with keen directorial sense and beautiful photography.

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*The steeple up in the air. St. Anthony's Church, Long Beach. Body of church not injured.*

# When the Newsreels Shoot an Earthquake

After a week of hard labor filming the Pacific Battle Fleet of the U.S.N., the newsreelers of 659, stationed at Los Angeles, stepped off their boats just in time to feel the first shock of the earthquake of March 10. The temblor struck at exactly 5:55 p.m., Pacific Standard Time, and lasted about thirteen seconds.

The newsreelers were on the job at Long Beach Compton and Watts before the dust of the falling wreckage had settled and as a result several scoops were scored in getting pictures to New York and to Metropolitan papers via air.

The big studios rendered aid in illuminating the darkened towns by sending truck loads of lights and mobile generator sets so that the spectacle was made to resemble a man-made movie set.

The roll call of the newsreelers at work on the scene only a few minutes after the first shock revealed the Universal News with Mervyn Freeman; the Paramount News with Joseph Johnson, Irby Koverman, Sammy Greenwald, Robert Sawyer, McCarroll; Fox-Hearst with Joe Hubbell, Al Brick, Jimmie Seebach, Eric Mayell, Ben Jackson, N. McGrath, H. Tice; Roy Kluver was shooting from the Goodyear blimp and our own newsreel reporter, Ray Fernstrom, was associated with the Paramount outfit. George Lancaster and Harry Parsons were freelancing with Leica cameras, loaned by Gilbert Morgan,



*Sam Greenwall*

*Sound men, stillmen and moving picture men record the tragic work of the temblor.*

*Mervyn Freeman*

and altogether it was the busiest group in the world that night. A little later they were joined by a delegation from San Francisco.

All the newsreelers were handicapped by a strange fog which floated in from sea shortly after the first shock, but it lifted in time to permit the sharp-shooters to get a lot of wonderful stuff in their boxes. Everybody who had any kind of a camera was at work and among these were to be seen literally scores of 16 m.m. outfits getting the record on what their owners knew was to be a part of the history of California.



*Polytechnic at Long Beach, said to be the largest high school in the United States. Almost destroyed by quake and fire.*

*A new Packard and a Chevrolet lay buried in this mound of debris on Ocean Avenue, the main street of Long Beach. Photographed by Leo S. Young and Earl Theisen.*

*Compton High School, showing front entrance.*



## RECRUDESCENCE

Casey Jones, the brave engineer, whose "Farewell trip to the promised land" has been immortalized in song and story, is now scheduled to be "immortalized" on the silver screen, according to an announcement made by Monogram Pictures. "The Return of Casey Jones" is the name of the feature and Monogram has borrowed Charles Starrett, former Dartmouth football player, from Paramount, to play the star part.

Starrett's role in the railroad melodrama is his second starring assignment at Monogram. He recently completed the lead in "Jungle Bride" with Anita Page. J. R. McCarthy will direct "The Return of Casey Jones" for the I. E. Chadwick production unit. The screen play was adapted from a story by John P. Johns now running serially in Railroad Stories.

## USING 16 M.M.

Industrial engineers and executives of manufacturing concerns are making use of 16 m.m. motion picture cameras to film the various manufacturing processes of their products. By studying these films they have been able to eliminate waste motion, thereby stepping up efficiency to a marked degree. Many of these films would do credit to the professional cameramen.

## "THE BIG CHANCE"

George Meehan has finished the photographic work on "The Big Chance," Eagle Features Corporation's latest picture and is prepared for the next production of the eleven pictures still to come on their program. "The Big Chance" is a big picture, directed by Al Hermann and featuring Myrna Kennedy and Johnny Darrow.

## PANNING 16 M.M. CAMERAS

A great many feet of 16 m.m. film is ruined by too fast panning. Instead of trying to cover an entire panorama it is suggested that the camera be held as near stationary as possible and only pan when necessary, and then slowly. Don't forget when you pan fast it blurs the picture.

## SHOOK 'EM OUT

The recent slight earthly disturbance, commonly referred to by the Eastern newspapers as an earthquake, apparently brought out all the Leica cameras. According to Gilbert Morgan, of Morgan's Camera Shop and Leica dealer, he has been swamped with orders for thousands of Leica prints from his many clients.

## AT LAST "GULLIVER"

Karl Freund, director of Universal, formerly ace cameraman of Germany, has been assigned to make Dean Swift's "Gulliver's Travels" into a motion picture. It is not yet announced what particular story is to be screened, but if there be any doubt in the minds of the U. producers as to what phase of Gulliver's adventures would be most helpful and instructive just now this journal would humbly suggest the chronicle

of the famous Lemuel's story of that wonderful and happy country where horses are the rulers and the highest caste. A picture showing this story with fidelity and power might put into the present generation a new birth of inspiration and hope. Mr. Freund will be a better director because he was and is a good cameraman.

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## KING KONG

Now at the Chinese Theatre



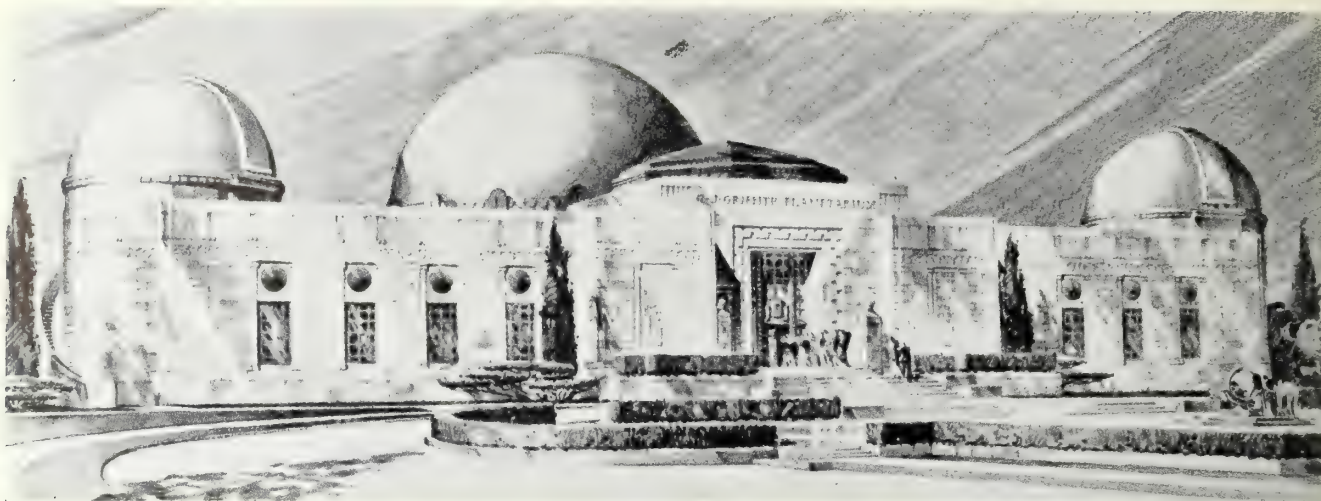
## AGFA RAW FILM CORPORATION

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HOLLYWOOD, CALIFORNIA

FACTORIES: BINGHAMTON, NEW YORK, U. S. A.





# HOLLYWOOD'S PLANETARIUM

The City of Los Angeles will soon be the proud possessor of one of the most unique and interesting public institutions in America.

Under the will of the late Colonel Griffith J. Griffith, a trust was formed, the terms of which provide that the trustee shall construct, equip and convey to the City of Los Angeles an observatory for the edification, enjoyment, education and scientific instruction of the general public—get that—GENERAL PUBLIC.

The Griffith Observatory as it will be known, is to be located about one-half mile west of the Greek Theatre on the south slope of Mount Hollywood in Griffith Park.

The grading of the site and preliminary road work are well under way at the present time and are being done by the Department of Parks. This will leave the entire bequest available for construction and equipment of the building. Parking space for three hundred automobiles is being provided.

Plans and specifications are now be-

ing prepared by a local firm of architects with the assistance and cooperation of many nationally known scientists.

The Observatory structure will be of modernized Greek design faced with granite and terra cotta of various shades which will harmonize with the natural surroundings of Griffith Park, as shown herewith in the architect's drawing.

The Hall of the Planetarium will have a seating capacity of 450. In addition to this room there will be a number of Exhibit Halls for the housing and operation of various scientific and educational displays.

The Zeiss Planetarium is the most remarkable instrument that has ever been devised to exhibit impressively, and with the illusion of reality the motions of the heavenly bodies and the phenomena which result from these motions. Through the mechanism itself, small beams of light representing the various planets are projected upon the inner surface of the dome ceiling and through a series of gears are made to emulate the rota-

tion of the planets through their respective orbits.

In nature a day lasts 24 hours, while in the artificial heavens such a diurnal revolution consumes only a minute or two. The instrument condenses time and the celestial phenomena of long periods can thus be observed in a very impressive manner.

The Planetarium, together with a 12-inch telescope, is being manufactured abroad at the present time and will soon be ready for shipment.

When completed the Observatory will be one of the finest of its kind in the world. In addition to the Planetarium and the 12-inch refractor telescope there will be a number of scientific displays, both astronomical and physical. These displays are now being planned by eminent scientists and will be constructed to depict graphically many of the wonders of nature.

Griffith Observatory will undoubtedly prove of great benefit both to student and laymen and will in truth fulfill the desires of the donor as expressed in his will.

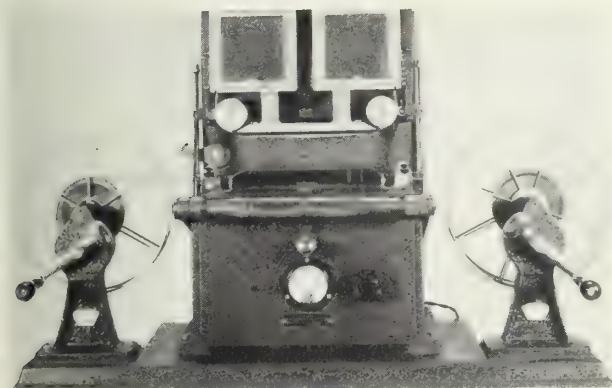
## Jerry Fairbanks and His New Plane

Jerry Fairbanks, first cameraman member of 659, has recently received delivery on a brand new Timm Monoplane built to his own specifications. The ship has a wingspread of 35 feet and is propelled by 165 horsepower Panther motor. The craft has a cruising range of about 500 miles at a speed of 100 miles an hour. The plane carries two people and is equipped with dual control throughout. Jerry is a licensed pilot and has been flying since 1926. He expects to make good use of his new plane for scouting up sequences for the "Strange as It Seems" reel of which he is producer, together with Manny Nathan, for Universal release. Photo by Willard Emrick.





# THE ARTREEVES LITE-TESTING MACHINE

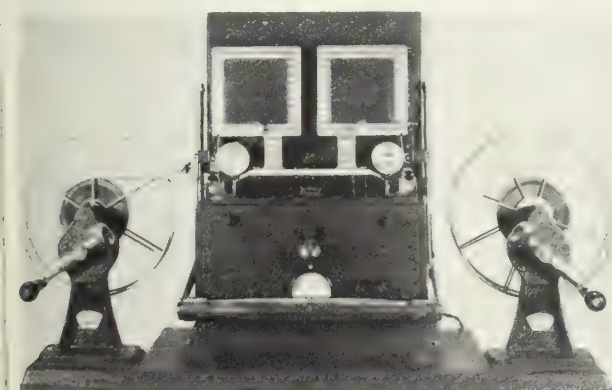


*This illustration shows the Lite-test machine with the handle and magazines up in position preparatory to making a light test*

A light-testing machine is invaluable in reducing to minimum errors in timing negative for printing. A great deal of guesswork goes into timing negatives by eye and it is only by good luck and coincidence that it is anywhere nearly accurate.

The old method of guessing the correct printing time has proved very costly and an indeterminate amount of positive has been ruined because of it. The loss of positive, however, is not the biggest item. Time and labor are perhaps the most important because of the necessity to reprint many scenes.

There is a machine, however, that will eliminate all this guesswork and cut your losses down to a minimum. The Artreeves Lite-Testing Machine is a workmanlike



*The Lite-test machine with the handle and magazines down during the exposure*

looking piece of machinery that any laboratory would be glad to have. As may be seen by the illustration it is equipped with two film magazines to hold the unexposed and exposed positive film. In this manner the machine is always ready for immediate use.

Although the machine is used in the dark-room a prolonged exposure of the positive film to the red light would result in a slight fog and this is prevented by the use of these magazines. The machine is equipped with two rewinds so placed that the negative film passes from one through the machine and onto the other rewind without the possibility of scratches.

After the Lite-tester has been matched to the printer, its operation is very simple. The negative is placed on the rewind at the right and is then threaded over the timing glass onto the rewind at the left. The left-hand magazine is loaded with unexposed positive film of the same emulsion as that which is to be used for the print. This positive is then threaded over the rollers under the pressure pad and over the sprocket wheel to the take-up spool in the right-hand magazine.

The electric switch is then turned on, lighting a red pilot light inside the machine, which illuminates that part of the negative which is to be tested. The voltmeter is also illuminated by a small red light which permits it to be read during all stages of the operation. The correct voltage registers on the meter and is regulated by the knob on the right. The machine is now ready to make a test.

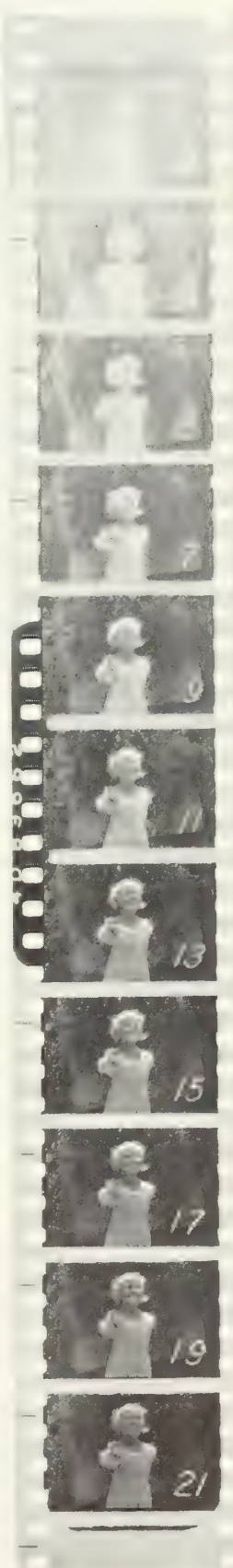
The first scene on the negative is rolled into place over the timing glass, then the large handle shown in the illustration is pulled down, the exposure made, after which the handle is returned to its normal position. When the handle is lifted the positive film that has been exposed is automatically wound up into the take-up magazine, while a fresh section of the positive film is in position and ready for the next test.

One of the features of this machine is that it is so constructed that the negative edge number may be printed on each test. It often happens that there are a number of negatives of the same scene, either photographed or developed at different times with the resultant variation in density. By utilizing this convenience, it is claimed that there is never a question as to what particular scene is tested. The illustration shows how this is done. Another outstanding feature is the voltage control and an ingenious method of automatically timing each test, which together insure the same exposure on every test at any time.

The rewinds are of an improved design, well balanced and strongly constructed, which insures their continuing to give long and satisfactory service.

After the various negative scenes have been light-tested in this manner, the positive test film is developed a standard time in the usual manner, after which these tests are then placed side by side on a light box. The correct printing time is then easily determined.

Many years of experience have proved that this is the only correct method of procedure in order to secure an evenly matched print by the time temperature method.





# INTERNATIONAL

## CLASSIFIED ADVERTISING

Brings results—Rates 30 cents per line—minimum charge one dollar per insertion. For Rent—For Sale—Wanted—For Exchange.

### FOR SALE OR RENT—CAMERAS

**FOR SALE OR RENT**—Mitchell and Bell & Howell silenced cameras, follow focus. Pan lenses, free head, corrected new aperture. Akeley, De Brie, Pathe, Universal, Prevost, Willart, De Vry, Eyemo, Sept, Leica. Motors, printers, lighting equipment. Also every variety of 16 mm. and still cameras and projectors. Everything photographic bought, sold, rented and repaired. Send for our bargain catalogue. Open 8 A.M. to 10 P.M. Hollywood Camera Exchange, 1600 Cahuenga Blvd. Phone GLadstone 2507. Hollywood 9431. Cable address Hocamex.

### FOR SALE—CAMERAS

LEICA cameras; new and second-hand; fine grain enlarging; photo supplies, etc. Morgan's Camera Shop, 6305 Sunset Blvd., Hollywood.

**SILENT** Bell & Howell, 40-50-75 F 3.5 lenses; Fearless movement; Sunshade; Matte Box; two 400-ft magazines; B & H tripod; carrying cases. Price \$750. Art Reeves, 645 No. Martel Ave., Hollywood.

### FOR SALE OR EXCHANGE

**WILL SELL** or exchange Leica camera outfit and 9-in. Astro Telescope for Graflex camera; prefer Auto-Graflex. 904 N. Acacia St., Compton, Calif.

**BELL & HOWELL** Filmo 70D camera and outfit, 3 lenses, Mayfair case, tripod and case, Kodacolor attachments, etc.; all in first class condition. Want late model Eyemo camera. Jackson Rose, International Photographer.

### FOR RENT—CAMERAS

**MITCHELL** camera, thoroughly silenced; Astro lenses, follow focus device, Mitchell free head, 1000-ft. magazines. Box 10X, International Photographer.

**MITCHELL** camera for high speed work. Equipped with 40-50-75 mm. Astro lenses; 1000-ft. magazines, tripod. Box 10Z, International Photographer.

### FOR SALE—LIGHTS

**CRECO**, 24-inch Standard Studio incandescent lights, also 18-inch Arc Mutes. Box 10A, International Photographer.

**STANDARD** Studio 80-amp. Rotary Spot lights; good condition. Box 10B, International Photographer.

### CAMERA REPAIRING

**BELL & HOWELL** cameras with old type shuttles silenced, \$150. Hollywood Motion Picture Equipment Co., 645 No. Martel Ave., Hollywood.

### FINANCIAL BACKING WANTED

**CAMERAMAN** of world-wide experience wants responsible party to finance series of pictures to be made in South Sea Islands; has own equipment, stories, etc.; excellent opportunity; best of references. Box 99, International Photographer.

### WATCHMAKER

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**SELL YOUR STILLs.** Get into print. Stamp brings you "Sample List 10-IP" giving subjects immediately wanted hundred magazines, newspapers, syndicates, etc., also all photographic contests. Authors Shop, Drawer 1916, Baltimore, Md.

### MAGAZINE SUBSCRIPTIONS

#### THE INTERNATIONAL PHOTOGRAPHER

**SPECIAL OFFER** for limited time only. One year of 12 issues for \$2. The most instructive and interesting magazine published on the making of motion pictures. The International Photographer, 1605 Cahuenga Ave., Hollywood, California.

#### THE INTERNATIONAL PROJECTIONIST

**THE International Projectionist**, a monthly magazine published in the interests of the projectionist. Interesting, instructive. Yearly subscription U. S. and possessions, \$2; foreign countries \$2.50. James J. Finn Publishing Corp., 1 West 47th St., New York.

### Recording Contract

Announcement has been made of the completion of a recording contract between Warner Bros. First National Productions, Ltd. and RCA Photophone Ltd. of London. In accordance with the new agreement, a complete RCA Photophone sound track has been made available to the Warner Brothers subsidiary for mobile sound recording work. Warner Bros. First National Productions has been using RCA Photophone recording facilities since the early part of last year through a sub-leasing arrangement with the Teddington Film Studios. With the addition of this new producer, there are now twelve leading British motion picture companies operating under licenses from RCA Photophone Ltd., which is a subsidiary of the RCA Victor Company in this country.

## MORGAN'S Camera Shop

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Pan Tachars Lenses

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HEmpstead 1128

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## Alvin Wyckoff



# International Photographer May Be Secured at These Magazine Stands

## UNITED STATES

### ARIZONA

Jerome—P. O. Cigar Store.  
Phoenix—Rich Cigar Store, 127 North First.

### CALIFORNIA

Culver City—Herline Studios, 3834 Main.  
Hollywood—  
Beachwood, 2695 North Beachwood Ave.  
Bell & Howell, 716 North La Brea Ave.  
Donaldson Drug Co., 6936 Hollywood Blvd.  
Educational Project-O Film Co., 317 North Fairfax Ave.  
El Adobe Market, 5207 Hollywood Blvd.  
Foster & Williams, 6284 Hollywood Blvd.  
Frog Pond, 6213 Yucca Ave.  
Gailing, 5482 Santa Monica Blvd.  
C. C. Gentry, 6667 Hollywood Blvd.  
Guaranty Bldg. News Stand, 6331 Hollywood Blvd.  
F. B. Heller, 6363 Hollywood Blvd.  
Hollywood Camera Exchange, 1600 North Cahuenga Ave.  
Hollywood Film Enterprises, 6606 Sunset Blvd.  
Kaplan, 6550 Hollywood Blvd.  
Lehnkering Pharmacy, Sunset Blvd. and Western Ave.  
B. Levine, 5905 Franklin Ave.  
G. H. McMahon, 1243 North Vine.  
W. L. Martindale, 9495 Santa Monica Blvd.  
Guy Newhard, 6305 Sunset Blvd.  
Peter's Hollywood Drug Store, 5661 Hollywood Blvd.  
J. Phister, 1602 North Cahuenga Ave.  
Plaza Hotel, 1637 North Vine.  
Ries Bros., Inc., 1540 North Cahuenga Ave.  
RKO Barber Shop, Melrose Ave. and Windsor.  
J. Samuels, 1640 North Vine.  
Savoy Drug, Sunset Blvd. and Bronson Ave.  
A. Schlein, 6423 Hollywood Blvd.  
Harry Stewart, Highland Ave. and Hollywood Blvd.  
Sunset Camera Shop, 6305 Sunset Blvd.  
Tayan, Sunset Blvd. and Western Ave.  
Universal News, 6700 Hollywood Blvd.  
White Gift Shop, 5520 Santa Monica Blvd.  
Wilcox Drug Co., 1557 North Wilcox Ave.  
Jess Willard, 1339 North Vine.  
Woods Gift Shop, 5530 Hollywood Blvd.  
Huntington Park—Huntington Park Camera Co., 6508 Pacific Blvd.  
Long Beach  
Jutson's, 146 Pine Ave.  
Mac's News Stand, 33 South Pine Ave.  
Winstead Bros., Inc., 244 Pine Ave.  
Los Angeles  
Ambassador Drug Co., 3400 Wilshire Blvd.  
Arrow Drug Co., 4th and Hill.  
Barber, 668 South Alvarado.  
Biltmore Hotel News Stand, 5th and Olive.  
Biltmore Sweet Shop, 5th and Grand Ave.  
Broadway Arcade, Broadway, between 5th and 6th.  
Broadway Dept. Store, 4th and Broadway.  
Brown Drug Co., 3413 Hoover Ave.  
Bullock's, 6th and Hill.  
Burke, Union Stage Depot, 202 East 5th.  
California News, 315 West 5th.  
Carrol, 1800½ West 7th.  
Clover Printing Co., 402½ South Hill.  
Crescent News, 218 West 8th.  
Eastman Kodak Company, 643 South Hill.  
J. Goldman, 2600 South Vermont Ave.  
Grand Central Market, 1328 Fourth.  
Homer No. 2, Wilshire Blvd. and Canyon Ave.  
Kompas, 3875 Wilshire Blvd.  
A. B. Marcus, 2019 West 7th.  
R. R. Martindale, 5318 Wilshire Blvd.  
May Company, 8th and Hill.  
Natick Book Store, 104 West 1st.  
Pacific Electric Station, 6th and Main.  
Penny Market, Pico Blvd. and Robertson Ave.  
C. V. Plenkhar, 339 South Hill.  
J. W. Robinson Co., 7th and Grand Ave.  
Schwabacher-Frey Stationery Co., 736 South Broadway.  
Sixth Street Novelty Shop, 823 West 6th.  
Smith News Stand, 617 South Hill.  
Stertz Model Food, 420 North Beverly Blvd.

C. C. Thomson, 145 West 11th.  
United News Co., 433 South Hill.  
Weisman Pharmacy, 5901 South Vermont Ave.  
Westlake Book Shop, 2016 West 7th.  
T. B. White, 663 North Western Avenue.  
Wilke News Stand, Chamber of Commerce Bldg., 1145 South Broadway.  
Wilkes, 122 East 7th.  
Ocean Park—Spencer, P. E. Station.  
Pasadena  
Pease, 49 East Colorado Blvd.  
Brown Shop, 190 East Colorado Blvd.  
McCord Cigar Store, 400 East Colorado Blvd.  
Wabash Drug Co., 2500 Wabash Ave.  
R. E. Smith, 1400 Sunset Ave.  
San Diego—Eastman Kodak Stores, Inc., 419 Broadway.  
San Francisco  
Cine Shop, 145 Kearney.  
Hirsch & Kaye, 239 Grant Ave.  
San Francisco Camera Exchange, 88 Third.  
Schwabacher-Frey Stationery Co., 735 Market.  
Sherman, Clay & Co., Kearney and Sutter.  
San Jose Hutchings News Co., 438 Santa Clara.  
Santa Ana Santa Ana News Agency.  
Santa Catalina—Winole's News Stand, Alina Island, Avalon.  
Santa Monica—W. W. Martindale, 1319 West 3rd.

### COLORADO

Denver—Eastman Kodak Stores, Inc., 626 16th.

### CONNECTICUT

New Haven—  
Eugene F. Clark Book Shop, 343 Elm.  
Harvey & Lewis Co., 849 Chapel.

### FLORIDA

Miami—Miami Photo Supply Co., 31 Southeast 1st.

### IDAHO

Boise—Ballou Latimer Co.  
Pocatello—Cook Drug Co.

### ILLINOIS

Chicago  
Associated Film Libraries, 190 No. State.  
Bass Camera Co., 179 West Madison.  
Post Office News Co., 37 West Monroe.  
Royal Radio Co., 661 North Michigan Ave.  
Rockford—Johnson Photo Shop, 316 E. State.

### IOWA

Iowa City—Rexall & Kodak Store, 124 College.

### MAINE

Portland—Bicknell Photo Service.

### MASSACHUSETTS

Boston  
Dadmun Co., 39 Washington.  
Eastman Kodak Stores, Inc., 38 Bromfield.  
Pinkham, Smith & Co., 15 Bromfield.  
Cambridge—EMF Electric Supply Co., 430 Massachusetts Ave.  
Lynn—J. H. Gouch, 490 Washington.

### MICHIGAN

Detroit—  
Crowley, Milner & Co.  
Detroit Camera Shop, 325 State.

### MINNESOTA

Minneapolis—A. J. Gospeter, 1006 Nicollet.

### MISSOURI

Kansas City—  
Eastman Kodak Stores, Inc., 916 Grand Ave.  
Plaza Camera Company, 4707 Central.  
St. Louis—Eastman Kodak Stores, Inc., 1009 Olive.

### MONTANA

Billings—Midland Drug Co., 27th and 1st.

### NEBRASKA

Omaha  
Eastman Kodak Stores, Inc., 419 South 16th.  
J. G. Kretschmer & Co., 1617 Harney.

### NEW JERSEY

Plainfield—Mortimer's, 317 Park Ave.  
Union City—Heraco Exchange, Inc., 611 Bergenline Ave.  
Vineland—Robins Photo Service, 615 Landis Ave.  
West New York—Rembrandt Studio, 526-A Bergenline Ave.

### NEW YORK

Brooklyn  
Abe Cohen's Camera Exchange, 120 Fulton St.  
George J. McFadden, Inc., 202 Flatbush Ave.  
Buffalo—Buffalo Photo Material Co., 37 Niagara.  
New York City—  
Herbert & Huesgen, 18 East 42d.  
Luna Camera Exchange, 302 West 34th.  
New York Camera Exchange, 109 Fulton.  
M. Rabinowitz & Sons, Inc., 1373 6th.  
Times Building News Co., 42d and Broadway.  
Willoughby's, 100-14 West 32d.

### OHIO

Akron—Dutt Drug Co.  
Cincinnati Fountain News Co., 426 Walnut.  
Youngstown Eastman Kodak Stores, Inc., 7 Wick Ave.

### OREGON

Portland Eastman Kodak Stores, Inc., 315 Washington.

### PENNSYLVANIA

Erie—Kelly Studios, 1026 Peach.  
Philadelphia—  
Klein & Goodman, 18 South 10th.  
Williams, Brown & Earle, 918 Chestnut.  
Pittsburgh—Eastman Kodak Stores, Inc., 600 Wood.  
Scranton—Scranton Home Movies Library, 316 North Washington.

### TENNESSEE

Jackson Southern Pictures Corp.  
Knoxville Snap Shop, 415 West Church Ave.

### TEXAS

Fort Worth—Camera Shop, Inc., 113 West 6th.  
San Antonio—Fox Company, 209 Alamo Plaza.

### WASHINGTON

Pasco New Pasco Drug Co.

### WEST VIRGINIA

Charleston—S. Spencer Moore Co., 118 Capitol.

### WISCONSIN

Bloomer—Detloff's Pharmacy.  
Madison—Photoart House, 413 State.

## FOREIGN

### AUSTRALIA

Melbourne—McGill's New Agency, 179 Elizabeth St.

### BRITISH WEST INDIES

Jamaica—Kingston—De Marcaio & Co., Ltd.  
Trinidad, Port of Spain, Louis Tucker Picture Productions, 23 Sackville St.

### CANADA

Winnipeg—Eastman Kodak Stores, 287 Portage Ave.

### ENGLAND

London, WC-2—Goringer's American News Agency, 90 Green St., Leicester Square.  
London, W5—Bruce's Ltd., 28 Broadway—Ealing.  
Bruce's Ltd., 28 Broadway, Ealing, London W. S.

### EGYPT

Alexandria—Kodak Societe Anonyme, 23 Cherif Pasha St.

### HAITI

Port-Au-Prince—Camille Thomas, 734 Rue Capois.

### MARTINIQUE

Fort de France Andre Velicitat, 29 Rue Schovelcher.

### PORTO RICO

San Juan—Zeiss Stores, Inc., Ceferino Segundo.

### SWEDEN

Stockholm Nordiska Kompaniet, Bokavdelningen.



# Out of Focus



After the several attempts to see the Editor, Si Snyder, I had been stopped every time by Miss Boyce who raised her hand, pointed towards the door and said: "Jeenkewer." I thanked her for the use of the phone and thought I would try to find out what she meant. After several inquiries I asked Miss Lincoln, who sees all and knows plenty.

She explained that it meant Gene Cour of Chicago was in the office and as I found out later, was fascinating Snyder and Estabrook. By the time I got back he had left for Chicago and to our disappointment the earthquake, pardon me—temblor, was going to happen after he left.

After getting to see Si, he explained that Gene had been talking on dynamic symmetry for the last three days and as it was impossible to get it across, Gene promised to go home and write an article for this issue. Si asked me what I thought about it. I told him that if they couldn't enforce it, it should be repealed.

I promised to get some stills for the articles and asked an English friend of mine where I could get some stills pertaining to dynamic symmetry. He said there was a beautiful cemetery over on Santa Monica Boulevard, but was not sure whether it was dynamic or not. I went over with a camera and discovered that it was mostly granite.

So long as I was there I thought I would make a shot or two as I was sure the office would not know the difference and when I gave them to Si he said they would do. Maybe I was wrong but I think I will have to wait until the article comes from Gene, to make sure.

## DO YOU KNOW

That Bill Rand is married and has a baby girl.

That Art Reeves has sold 27 of his recording outfits to foreign countries.

That I saw Jackson Rose and Joe Novak talking confidentially the other day. Wonder if they were planning another accident.

That Ray Fernstrom broadcasts over KECA Monday nights at 9:30.

That this is a National Hook-up and is released by 52 stations.

That when he is not at the "Mike" he plays spare parts and sound effects with great feeling, as well as in the Scandinavian.

That Bordy Boradaille has married a French girl.

That Karl Struss had his foot run over by a camera crane and went "on with the show" from a wheel chair.

That Chas. Bohny is Billie Dove's brother.

That George K. Hollister and George K. Jr. are members of the

## DYNAMIC SYMMETRY



MONUMENT IN MONTESSA CEMETERY

*This little view has nothing to do with the title above as you you will see if you will be kind enough to read the following article. Nevertheless it was shot in a "dead" front light as you can tell by the lack of definition in the bamboo sprouts in the background. Print furnished by Woodbury Studios, to whom I owe 90 cents.*

Local. And that George K. Sr., started in the business in 1906.

That I often wonder whether its a business or a racket.

That J. O. Taylor is the new Treasurer.

That Ira Hoke parts his name with Betillion.

That we have one Heckler in the Local. William G.

That Gene Cour of Chicago has over 300 poles working for him. All American. Telegraph poles.

That George Lancaster's "Ghost Towns" was the first independent subject shown at the Warners Winter Garden in N. Y.

That Bob Morton cooked 80 lbs of beans and 75 lbs of corn bread at the Hollywood American Legion recently. He is operating the lunch counter and Fountain at the Hollywood Post, 43, A. L.

That Jimmie Palmer helped him make 1,100 cups of coffee and while resting figured that the corn bread measured 120 square feet.

## President Wyckoff's Cabinet

I suggest the following.

Secy. of Interior....Glen Kerschner  
He has photographed surgical operations for years.

Secy. of War.....Roy Klaffki

I think he would make a good one.

Secy. of Navy.....Al Gilks

He used to own a boat.

Secy. of Army.....Reggie Lyons

He was a last Lieutenant in the last war.

Secy. of Treas.....Milt Gold,

John Silver or Raleigh Nichols.

Note. (I have not made a crack about Woodin money.)

Secy. of Steak.....Speed Hall

I am sure he would "fill" this position well.

Secy. of Labor.....Paul Vogel

His interest would be in his work.

Secy. of Foreign relations.....

.....Paul Perry

Now on his way home from a trip around the world.

Secy. of Commence.....Otto Phocus

He is ready to commence at any time.

Secy. of Aviation.....Art Reeves

He goes up in the air easily.

And don't forget, it's all in fun.

## EPITUFFS

Here lies the body of honest Joe

Dover.

When they blew up the ship he forgot to swing over.

Here rests the remains of old man

McGowan.

He opened up when he should have

stopped down.

Here lies a sound man, ambitious and

thrifty,

Ran his recorder at sixty and the camera at fifty.

Here rests an electrician, his fuse is

blown out;

He should have looked in, when they shouted, "look out."

Here is a lab man after six weeks in

bed.

Ran out of gin and drank hypo instead.

Here lies an electrician, his name was

McHenty.

His feet were in water, his hands held two-twenty.

Here rests a cutter who threw film on the floor.

He dropped a cigar; he's not here any more.

Here lies a director, the meanest 'tis said;

Was cured over night by a crane on the head.



# CONFIRMED BY TIME

IT may have been fate that prompted the perfecting of the first Eastman motion picture film just when Edison's first projector demanded it.

But it was time's judgment of its merit that again and again confirmed Eastman film as a leader in the industry it helped to father.

Today it's Eastman Super-sensitive Panchromatic Negative that points the way to new heights of accomplishment, in a new era of cinematography. Eastman Kodak Company (J. E. Brulatour, Inc., Distributors).

EASTMAN FILM



**The many exclusive features  
that have made the MITCHELL  
the leading professional  
camera and improvements  
which will be included in our  
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cinematographers of the  
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**Mitchell Camera Corporation**

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**Phone OXford 1051**



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# INTERNATIONAL PHOTOGRAPHER

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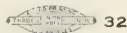
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## BIG FEATURES FOR OUR JUNE EDITION

### CINEMATOGRAPHIC COMPOSITION

(Pre-release of an article by Eugene J. Cour, that will appear with the pictorial section of Cine Crafts Year Book for 1933.) Students of Dynamic Symmetry will appreciate this.

### THE CINEMATOGRAPHY OF NATURE

(The Rationale of the Akashic Records.)  
By Geoffrey Hodson

### EVOLUTION OF THE MOTION CAMERA

By Earl Theisen  
(From data supplied by the world's greatest cameramen.)

Mr. L. Guy Wilky will tell the story of his recent sojourn in Ceylon shooting wild animal pictures. A 30-foot python leads his amazing gallery of jungle stills.

### THANK YOU

The International Photographer and the entire personnel of Local 659, owners and publishers of this magazine, gratefully extend their thanks to all those new subscribers who recently took advantage of our reduced subscription price.





# The PRACTICAL LEICA

By  
ALVIN WYCKOFF

*President, Local 659, International Photographers*



Made possible through the advent of motion picture negative and the imagination of a photographer of scientific mind, there is now available to the practical motion picture photographer of today the Leica camera.

Heretofore, it has always seemed necessary for the purpose of determining the proper exposure under certain conditions that the cinematographer must assemble his cumbersome apparatus and expose lengths of footage of film from 50 to 100 feet. In turn this footage had to be sent into the laboratory for processing and then after one or two days projected upon the screen before the cameraman was sure of the result and before he could determine the result sought for.

This procedure was often an expensive item both in cost of material and time. In some instances the same method is necessary today to determine and settle an intricate point in question for the executive management of the production. But for the cinematographer, who is constantly searching, and who must determine to an infallible nicety a fact of photography before incorporating it into his picture, when the cost of many dollars per foot will be involved, the Leica camera is an indispensable unit of his constant equipment.

Due to the fact that the Leica camera is accommodated to the use of motion picture negative, and the different sizes of focal length lenses used by the cinematographer, the latter is at once in a position to determine, within half an hour of exposure, the proper filter to use and the correct exposure to obtain the result demanded.

By addition to the equipment of the small development tanks made for use with the Leica many important questions can be determined correctly. And while on an expensive and distant location, by means of exposures made at various "stops" and "speeds" without filters and with filters of various densities and satisfactorily determined within a limit of thirty minutes, and by the use of only a few feet of negative stock, that could not be used for any other purpose, a saving of many times the cost of effort in time and money may be made—a matter of detailed efficiency that returns many times the cost in many ways.

For the still photographer, the addition of the Leica is valuable. With the Leica he will always be the victor over the competitor who insists on working with the larger and more cumbersome 8 by 10 still outfit. With the Leica he will work faster and can afford to make several exposures of a subject where the more expensive equipment must warn the operator that he is mostly limited to only one exposure or one negative. The operator with the Leica will have the advantage of choice from his negative and the advantage of enlargement of any size required. Some of the finest illustrative

pictures (stills) coming to the trade today are enlargements made from the negatives exposed in the Leica camera.

Recently the writer in collaboration with Mr. Cliff Thomas, of the Hollywood Camera Exchange (1600 Cahuenga Boulevard) made some very interesting tests with the Leica to determine the effects and differences of standard makes of emulsions with a range of 21 filters. The illustrations herewith will probably tell the story more understandably than the mere wording of the detail.



No. 1—Interior of an office with two extremes of lighting conditions. 35 mm. lens. F 3.5. 1/60 second.



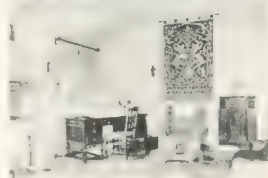
No. 2—Interior living room. The only light used here for exposure was the usual lights of the room, 3 75w Mazda, 15v, and the light from the fireplace. F 5-6. 3 seconds.



No. 3—Same room and same light source. F 5.6. 6 seconds.



No. 4—Same room and same light source. F 5.6. 8 seconds.



No. 5—Same room and same light source, with the addition of one flash bulb. F 5.5. 3 seconds.

Negative: Superspeed emulsion. The printing is done for the value of exposure or manipulation.



# ● Illustrations and Data. 50 mm. Lens ●

	F 18, 1/60 second, no filter.		F 9, 1/60 second, 3N5 filter.		F 6.3, 1/60 second, ND100 filter.
	F 18, 1/60 second, A1 filter.		F 8, 1/60 second, 3N5 filter.		F 9, 1/60 second, 56 filter.
	F 14, 1/60 second, A1 filter.		F 9, 1/60 second, G filter.		F 9, 1/60 second, X1 filter.
	F 13, 1/60 second, A2 filter.		F 9, 1/60 second, 23A filter.		F 8, 1/60 second, X2 filter.
	F 16, 1/60 second, K1 filter.		F 6.3, 1/60 second, 25A filter.		F 3.5, 1/60 second, 23A56 filter.
	F 12, 1/60 second, K2 filter.		F 12.5, 1/60 second, ND25 filter.		F 3.5, 1/60 second, 70 filter.
	F 12, 1/60 second, 21 filter.		F 9, 1/60 second, ND50 filter.		F 3.5, 1/60 second, 72 filter.

The printing of the negative, as in the examples shown herewith, is done on the corrected timing of the negative without filter, and all the filtered negatives are printed with the same exposure, without any attempt at correction.

The cinematographer in charge of any production will at once realize the advantage to him of the addition of Leica equipment to advance his efficiency in the finished quality of his photography.

## L. GUY IS BACK HOME

After a sojourn of several months in the Orient, L. Guy Wilky (there's only one) arrived at his home in Hollywood about April 15, all pepped up and ready to go back again.

L. Guy and Paul Perry had been the cameramen with the Tom White expedition which went to Ceylon to shoot wild animal stuff—and when the picture was finished L. Guy leisurely wandered back via China and Japan while Paul hooked

up with Len Roos and went away to shoot pictures in Java, Sumatra, Bali and all points south and east.

The trip was productive of much art and adventure and Mr. Wilky has promised the editor a beautifully illustrated story of the expedition from his point of view to appear in THE INTERNATIONAL PHOTOGRAPHER for June. Look for it. A thirty foot python will be one of the attractions.

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# UNDER ALL CONDITIONS

» » » OUTSTANDING in speed, fineness of grain, and resolving power, Eastman Sound Recording Film holds its own splendidly under all conditions of variable-area and variable-density recording. In the face of a continually stronger appreciation of, and demand for, sound of highest quality, this Eastman film is the most dependable medium at the disposal of the industry. Eastman Kodak Company. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

## EASTMAN

**SOUND RECORDING FILM**



[The motion picture industry will read with interest, amazement and delight the dignified and scholarly announcement of Dr. Curtis R. Haupt, that third dimension in moving pictures is an accomplished fact.

Dr. Haupt is an authority whose recent researches on "The Probability Law Governing Ionization by Electron Impact in Mercury Vapor" were of such importance that he is now engaged at Pomona College under the auspices of the National Research Council of Washington, D. C., in the completion of a new thesis on "Energy Losses Experienced by Slow Electrons in Inelastic Impacts with Mercury Atoms."

This magazine presents Dr. Haupt's analysis of "A New Method of Adding Depth to Motion Pictures" with the knowledge that it is highly honored in being the first to present this new conception of three-dimensional photography to the motion picture and scientific world.

In this day of uncertainty, ballyhoo and noise comes this quiet, convincing and authoritative announcement. Even the name of the inventor is not mentioned. A few of Hollywood's technical authorities have been privileged to attend a private showing of test films. They have come away stirred by the beauty of the pictures and eager to know more of the men who have developed Natural Vision. In our issue of the next month we hope to tell something of this story.—Editor's Note.]

# A New Method Of Adding Depth To Motion Pictures

By

CURTIS R. HAUPT, Ph.D.

Department of Physics, Pomona College



The constant aim of the motion picture producer has been to give the public pictures which reproduce faithfully each scene exactly as it would appear to an observer watching the action at the point where the camera was located. On account of great differences between the human eye and the camera which takes the pictures the task is not an easy one. In the eye, images are formed on a membrane called the retina. Little is known about the mechanism by which these images are finally interpreted as vision by the brain. The process is physiological and psychological. In the camera the images are formed on a sensitive film. This film is a plane surface whereas the retina is a curved surface. Just what difference this makes in camera-vision as contrasted with eye-vision is not known.

Again, we know that the crystalline lens in the eye is capable, by muscular action, of almost instantaneous variations in thickness so as to focus objects at various distances on the retina. The details of a scene are then apprehended by a rapid shifting of the eyes from point to point over it, the brain holding the various images by memory until a complete spatial concept of the objects in view can be formed. No such rapid variations in focus are possible in the lens of a camera. Instead, the best one can do is to have objects within a certain range in fairly good focus. Objects outside of this range will be photographed more or less indistinctly.

Again, the eye perceives color by a mechanism not understood. There exists as yet no simple way of sensitizing a camera film to reproduce color. Also, the eye is able to receive and interpret the concept of displacement with time, and, whenever such a concept is obtained, the motion, as far as our consciousness can detect, is continuous.

It is not possible to record continuous motion on a camera film. Any such attempt would only result in blurred images. Moreover, the eyes are able to perceive objects as having depth as well as lateral extent. The camera has been only partially successful in simulating this

effect. Our knowledge about objects is further augmented by information gained from the other sense organs—hearing, taste, tactual contacts and smell. Herein lie some of the great problems which have to be met by the motion picture technician who would put more realism into his films and thus enhance their value.

In surmounting these difficulties, the progress already made has been almost unbelievable as will be quite apparent to the modern theater-goer. Let us briefly mention some of the achievements which have been made in the art of screen technique.

In the first place, motion pictures are only possible on account of a peculiar property of the human eye and the nerves and brain tissues associated with seeing. This peculiar property we term persistence of vision. The eye is not able to detect discontinuity in a series of events if they happen with a frequency greater than a certain critical value—usually about 12 per second. Thus it becomes possible to take a series of pictures in rapid succession and if these pictures are projected with such a frequency that the time between pictures is less than the time of persistence of vision, the eye interprets the scene as continuous in time and the motion picture is obtained.

The difficulties of adding sound to the silent film have steadily been overcome by the concerted drive of investigators in many laboratories.

Pictures have also been produced in natural color. True, the process is not perfected so as to reproduce every shade and tone which the eye might detect in the original scenes, but a fairly good color range can nevertheless be obtained. In addition, the process is so expensive and the time required to turn out the finished film is so great that few motion pictures are produced in color at the present time. However, the technique is known and pictures in color will be possible whenever the demand for them justifies the additional expense and time necessary. It will not be possible in this paper to discuss the techniques which enter into these processes.



The addition of reality to pictures by methods appealing to the other senses is not practical and for obvious reasons will probably not be attempted.

The addition of a third dimension to motion pictures has been attempted by many experimenters. Difficulties inherent in the fundamental differences between eye-perception and camera-perception beset the investigator from the first. The eyes receive information concerning the extent of bodies in space—in a number of different ways. Luckiesh, in his book "Visual Illusions," mentions eleven as follows: (1) extent, (2) clearness or brightness and color as affected by distance, (3) interference of near objects with those more distant, (4) elevation of objects, (5) variation of light and shade on objects, (6) cast shadows, (7) perspective, (8) variation of the visor angle in proportion to distance, (9) muscular effort attending accommodation of the eye, (10) stereoscopic vision, (11) muscular effort attending convergence of the axes of the eyes. It is seen that the last two are the only ones concerned with binocular vision and all methods of attaining three-dimensional effects in pictures must depend for their success upon the phenomenon of stereoscopic vision. Thus the camera is greatly limited in the means available to it in reproducing space reality as compared to those used by the human eye. In view of these facts the degree of success achieved by methods already tried is really quite remarkable.

Let us consider briefly how the eyes themselves perceive relief by the use of binocular vision. Each eye is a separate optical instrument which forms its own image of every object in the field of perception. Since the eyes are situated a certain distance apart, called the interpupillary distance, they will view each object in space from a slightly different angle. Thus the images formed on the retina will not be quite alike and when the images are fused by the brain, this dissimilarity will be interpreted as depth.

Methods of producing stereoscopic effects in motion pictures make use of the binocular principle in the following way. If two photographs of the same group of objects are taken simultaneously or in rapid succession and from slightly different lateral positions, there will be differences in image positions on the two pictures, similar to those which occur on the retinas of the eyes. If these two pictures are viewed at the same time, one by either eye, then, under the proper conditions, the images formed on the retinas will be like those obtained in normal vision and we have three-dimensional pictures.

For the production of these effects double motion picture cameras have been used, i.e., two complete cameras mounted side by side, two films being exposed simultaneously. The technical costs of making such a picture are thus doubled. This is an obvious disadvantage. Projection costs are likewise doubled for, since the two films have to be projected simultaneously and in synchronism, two projection machines must be employed. A further complication results from the fact that means must be provided for excluding from the one eye the images which

should be seen exclusively by the other. Various means of doing this have been employed. One method has been to project the two pictures through red and green filters respectively. Each observer wears a special set of spectacles, with a red filter over one eye and a green filter over the other. Each filter admits only the picture elements having that color, so that the requisite separation of the images is obtained. One of the first simplifications suggested was to print alternately on the same strip of positive film the panels taken by the two cameras. They could then be run through the same projecting machine. If the color filter method of separating the images were employed, the filters would have to be mounted so that they would be thrown alternately into the optical path through the projector. In this way successive panels would be projected through different colored filters.

An alternate method was to eliminate all color filters and to mount in front of each observer a shutter arrangement having two openings and synchronized with the projecting machine. These two openings were as far apart as the eyes of the individual. Only one shutter would be open at a time, namely, that one which would permit the eye to see the picture photographed by the corresponding camera. Other ingenious systems for separating the images have been devised, but all of them have the disagreeable feature of requiring the observer to watch the screen through some special viewing device. This has prevented their adoption and use commercially. Any satisfactory method which is evolved must eliminate special devices through which an observer must look in order to see the pictures and they must be capable of projection on a two-dimensional screen. From the point of view of economy it would be desirable also that the method utilize existing motion picture cameras and projecting equipment.

A practical and surprisingly simple solution of three-dimensional motion pictures has been reached by the process of making Natural Vision pictures. The writer was called as consultant and has made a thorough analysis, which is now for the first time given to the public. The method of obtaining stereoscopic pictures is derived from the following hypothesis of the inventor as a working basis for achieving Natural Vision effects in motion pictures.

"The internal oscillation of images on the retina due to the circumstances of binocular vision instead of being produced in the eye by varying the direction of the axes focused upon different planes under inspection, can be produced externally upon a plane surface by a change in the relative positions of the objects which constitute the view." After a careful analysis of "motional perspective, monocular and binocular vision, focal and axial accommodation of the eyes, fusion of images in the brain and other pertinent criteria," as well as experimental investigations using the camera and optical bench, the following conclusions were reached. The so-called stereoscopic effect produced by the ordinary double lens system and Wheatstone's stereoscope is far more anaglyphic\* than the eye would perceive when seeing the objects from the same position, as that from which they were photographed. If this be true, it should be possible to produce photographic relief, more in accordance with that which the eyes customarily see, by taking successive photographs from points separated laterally by much smaller distances than those used in obtaining the usual stereoscopic photographs. In fact these points might be so near that the second camera

\* anaglyphic—The quality of relief or depth as differentiated from the non-relief of a plane surface.



could be entirely eliminated, all of the photographs being taken with a single camera the position of which is laterally shifted by the requisite amount between pictures. These conclusions are now verified.

A series of experiments intended to reduce these ideas to standard commercial practice has been under way for several years. As a result there was finally evolved the present system by which time elements, retention of impression, mental fusion and mechanical technique are combined in such a way as to permit standard motion picture practice both as regards the taking of the picture and its projection on the theater screen.

The apparatus consists essentially of a standard set of camera tripod legs which support a motor driven mechanism. This in turn furnishes the standard Bell & Howell, or Mitchell, tilting head with an arcuate reciprocating motion. The standard camera is mounted in the usual way on the tilting head and is therefore capable of being tilted or panoramed exactly as ordinary practice demands.

The novel and peculiar feature of the device lies not so much in the driving mechanism itself as in the mechanical method by which the camera is caused to oscillate along an arc (or straight line) which has for its center of curvature some point within the area being photographed. This point is determinable by simple technical methods as well as by purely mathematical ones.

It is true that a certain special mechanism must be added to obtain this result, but this entails no change whatever in the standard motion picture equipment. The system in no way interferes with matting, filtering, or other technical requirements which present day practice in the studio requires, nor does it in any way conflict with the requirements of sound photography.

Every step forward in motion picture practice necessarily involves a new technique. Whereas standard practice in exposure and general handling of the camera remains unchanged, this new advance in the art of taking

Natural Vision pictures involves a technique all its own. The camera man of today need have no qualms regarding this technique. A few hours of "shooting" and the making of half a dozen test shots will make him quite at home with the new system. It now lies within his power to produce effects on the screen which are beyond those seen with normal vision, or to reproduce, in any given plane in the picture he may be making, the same depth that the unaided human eye would receive when viewing the scene from the same point as that at which the camera is placed.

Popular conception of stereoscopic motion pictures has long since been that which grew out of the old fashioned stereoscope, and, to many, a picture is not truly stereoscopic unless endowed with such pronounced relief. Yet it is not such relief that we see in every day objects which surround us. It is a matter that everyone can settle to his own satisfaction if he will simply take the time to observe carefully the things he sees about him, to study them and analyze the relief that his eyes can actually discern. Any careful observer may see at once that old fashioned stereoscopy and normal vision are two vastly different things.

One surprising feature of the method is that very small lateral displacements of the camera will produce relief approximating that obtained in normal vision. These displacements have been varied from  $1/20$ th to  $1/32$ d inch with good results. A striking and conclusive demonstration of the principles involved in the Natural Vision process is obtained when two successive panels from one of the new Natural Vision films are viewed simultaneously using an ordinary stereoscope. The pictures show a remarkable degree of relief.

The following discussion will illustrate the essential elements concerned with the making and viewing of stereoscopic pictures. Throughout this discussion we

(Continued on Page 10)



### FIRST VITAGRAPH STUDIO

The first Vitagraph Studio of 1898 on the roof of the Morse Building, on Nassau Street, in New York. The first picture taken here was "Tearing Down the Spanish Flag." During the filming of a picture at this open air studio, if a steam cloud should blot out the light, the actors would stand in frozen poses until the light returned. Vitagraph was formed by J. Stuart Blackton and Albert E. Smith, and later "Pop" Rock joined them. This picture was drawn by Blackton for the motion picture collection at the Los Angeles Museum.



# AROUND THE WORLD

## WITH

### HERFORD TYNES COWLING

## A TIGER HUNT IN INDIA—No. 2



Shooting tigers in the long grass of the Indian Tarai is quite different from any other kind of hunting. Because of the long grass it is absolutely necessary to employ elephants.

Filming the shoot is not easy because one never knows where the tiger will break out of the cover after once gotten into the ring.

Baits are used to locate the tiger, after which a ring is formed around the tiger by the elephants. The tiger will not

rush away, but hides in the long grass hoping to escape notice.

The grass is trampled down around the ring by the elephants to give the hunters a shot as the tiger breaks through the clearing thus made.

Fifty-eight elephants and six hundred coolies were used in this shoot—most of the coolies were busy cutting and

hauling food for the elephants, since the latter were busy working with the hunters and did not have a chance to rustle their food. Each elephant eats 600 pounds of banana palms a day. We got nine tigers in seven days' shooting.

Getting any films of the live tigers was out of the question, the grass being too long—and no telling where they would break.

I have often been asked if the tiger ever makes a direct attack upon an elephant. The answer is that it has happened rather often, but the attack is almost always from the rear.

This jungle cat is versatile. He varies his attack according to the animal he is after, but always goes after the elephant above and from the rear. He is the only member of the cat species which has courage enough to attack the elephant, his plan being to get onto the pachyderm's back, sink his teeth into the most vulnerable spot on both sides of the spinal column and crush the vertebrae.

To get away with this he must be quick and sure. If he misses the first time the elephant will roll on him or scrape him off by running under the branches of a tree.

## DEVRY Sound Recording CAMERA

By A. P. HOLLIS, M.S.

I knew it had to come, but it came sooner than I expected. I mean the elimination of bulk in sound recording cameras. Anybody familiar with the truck load of impedimenta that the sound camera man has had to struggle with since the advent of the "talkies," will appreciate this new "wrist watch" edition of the "talkie" camera.

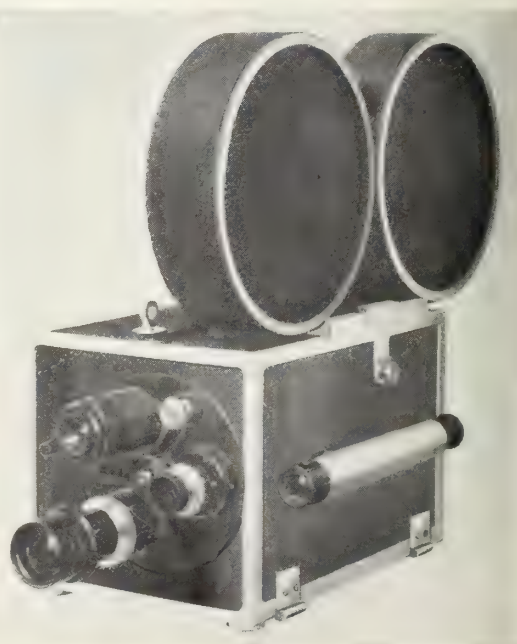
Of course the mere reduction of size and weight is an easy matter. But to reduce size without reducing *efficiency*—that has been the rub. But now it looks as if both of these things have really been done.

The new DeVry sound camera is a product of the fertile brain and long experience of Herman A. DeVry—who has pioneered many things in cinematography.

The camera uses the single system, the housing being of aluminum strongly reinforced. The mechanism is of the two claw type and highly refined in design. An exclusive feature is the sound sprocket filter wheel consisting of a modification of the Robertson patent. This is one of the reasons for the unusual results secured from the DeVry. The camera has a removable magazine, and will accommodate either 400 or 1,000 ft. magazines. It uses a standard glow lamp and the sound track produced is of the variable density type. A tachometer at

the rear of the case shows the operator at all times at what speed the film is moving, and the speed is controlled by an automatic electric governor, which main-

(Continued on Page 19)



DeVry Sound Recording Camera

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Read Left to Right:

First Row—Off for the day's shoot. Heavy gun boxes are sent on ahead since the elephants travel much slower than our transport animals. This little fellow was a fast walker and served as my taxi back and forth from shoot to camp. When we arrive at the "beat" we transfer to the heavy shooting howdahs before starting to beat for tigers.

Second Row—Beating the eighteen foot grass for the tiger. After the tiger is killed or wounded it is located. Sometimes a wounded tiger puts up a terrific fight.

Third Row—Once "jumped" in the high grass the elephants are formed in a ring around the beast. This day we bagged three. Hunters ready for the break.

Fourth Row—Bringing home the cat's whiskers. This was my lucky day. A close-up of my kill.

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(Continued from Page 7)

shall be dealing with actual distances which can either be measured directly or computed by mathematical formulae. The apparent depth between images is much greater, being modified by psychological factors which govern the action of the eyes in determining three-dimensional space. We shall first investigate one of the fundamental principles of binocular vision.

Let  $O_1$  and  $O_2$  in Fig. 1, be two objects which are being simultaneously viewed by both eyes and let us suppose that the eyes are focused in the plane of  $O_2$ . As one can easily verify by trying the experiment, it is apparent that instead of one image of the object  $O_1$  there will be two, one located at  $O_1'$  and the other at  $O_1''$ . The image  $O_1'$  is formed by the action of the right eye and the image  $O_1''$  is formed by the action of the other eye. Thus, although the observer may not be conscious of it, these images exist, and it is evident that their separation  $q$ , is a function of the actual distance apart of the objects. For we have at once from simple geometrical considerations,

$$\frac{q}{O_1O_2} = \frac{ELER}{U_1}$$

or solving for  $q$  and writing the interpupillary distance  $d$  for  $ELER$  and expressing  $O_1O_2$  in terms of the object distances  $U_1$  and  $U_2$ , we have,

$$q = d \frac{(U_2 - U_1)}{U_1}$$

This displacement distance  $q$  is an important factor in aiding the eyes in estimating the distance between various objects in the field. In the case of stereoscopic effects, either in stationary or motion pictures, these displacements become of utmost importance. In every case we are looking at two pictures in the same plane, which are different only in regard to these displacements. The latter, when determined with respect to some arbitrary object as a reference point, are found to vary with the position of the object in the field.

Now it sometimes happens that the eyes are focused in the plane of the near object rather than in that of the more distant. In such a case, the more distant object  $O_2$  will be imaged by the eyes in two different



points  $O_2'$  and  $O_2''$  in the plane of  $O_1$  as indicated in Fig. 2. As before, if we let  $q$  be the image displacement  $O_2'O_2''$  we have

$$q = d \frac{(U_2 - U_1)}{U_2}$$

A reversal of the process just discussed shows how the eyes can use these displaced images in one plane, to form a spatial concept of the objects themselves. Suppose that two photographs taken from slightly different points are mounted in the plane of  $O_1$  and, in addition, let us assume that the photograph which is viewed by the right eye at  $ER$  lies entirely to the right of  $O_1$  and the one seen by  $EL$  lies entirely to the left of  $O_1$ . Then if a given object is seen by  $ER$  at  $O_2''$  and by  $EL$  at  $O_2'$  it will seem to lie at the intersection of the lines  $ER O_2''$  and  $EL O_2'$  or at  $O_2$ . This is the principle underlying the operation of the ordinary stereoscope. In this instrument, auxiliary lenses are included at  $EL$  and  $ER$  to assist the eyes which are focused in the plane  $O_2$  to converge the rays from nearer objects such as  $O_2'$  and  $O_2''$ .

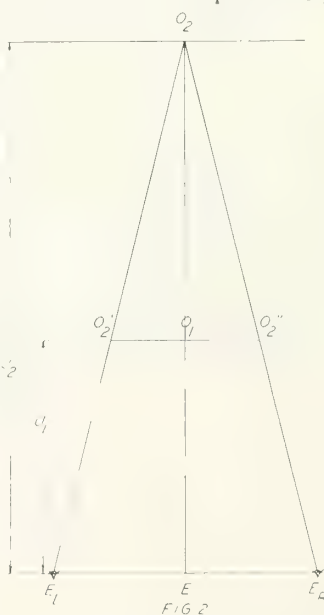
Again, suppose that in Fig. 2,  $O_2'O_2''$  represents the plane of a motion picture screen. Pictures of the same scene, taken from two slightly different positions, are projected on the screen in rapid succession. If at one time an object appears to  $EL$  to be at  $O_2'$  and a fraction of a second later appears to  $ER$  to be at  $O_2''$ , then, due to persistence of vision, the object will appear to  $EL$  to be on the line  $EL O_2''$  and to  $ER$  to be on the line  $ER O_2''$  and therefore at their intersection  $O_2$ . In this way every object is established in the three-dimensional space presented to the eye by this system of displaced images. The result is a stereoscopic motion picture.

To provide a basis for discussing the new method of obtaining depth in motion pictures, let us consider briefly the mode of operating the stereoscopic camera. Let  $O_1'$  and  $O_2'$  in Fig. 3 be two objects which are being photographed. The Figure will represent either one of two possible experimental procedures. In the first case we will imagine a single camera which takes its first picture with the lens in position  $L_1'$  and then shifts laterally a distance  $d'$  to position  $L_2'$  where it takes a second picture. In the second case we can postulate two cameras one at  $L_1'$  and the other at  $L_2'$  which simultaneously take two photographs of the given objects. The sensitive film is at a distance  $s'$  from the lens. In motion picture work this distance is approximately equal to the focal length of the lens. In position 1,  $m_1$  and  $m_2$  will represent the points on the film at which the objects will be focused. In position 2,  $m_1'$  and  $m_2'$  will represent the points where the objects will be focused. The actual displacements of the images on the film can be given with respect to point  $a$ , the intersection of the optical axis with the film. Imagine the two photographs superimposed so that  $a$  and  $a'$  coincide. The actual displacements of the images of  $O_1'$  and  $O_2'$  will be, respectively,

$$b_1 = m_1 a + a' m_1' \quad (1)$$

$$b_2 = m_2 a + a' m_2' \quad (2)$$

These can be obtained in terms of the two object distances  $U_1'$  and  $U_2'$  as follows: From similar triangles we have the relations,





$$\frac{m_1 a}{s'} = \frac{d_1'}{U_1'}$$

$$\frac{s' d_1'}{U_1'} = d_1'$$

whence  $m_1 a = \frac{s' d_1'}{U_1'}$

(3)

$$\text{similarly } a' m_1' = \frac{s' d_2'}{U_1'}$$

(4)

Adding (3) and (4) and substituting in (1),

$$b_1 = \frac{s'}{U_1'} (d_1' + d_2')$$

(5)

But  $d_1' + d_2' = d'$   
Thus (5) becomes

$$b_1 = \frac{s'}{U_1'} (d')$$

(6)

For the other object we have,

$$b_2 = \frac{s'}{U_2'} (d')$$

(6)

Now let the two films be developed and the positives made therefrom be enlarged  $m$  times. Let the positive made by the lens in position  $L_1'$  be mounted as in Figure 4, at a distance  $s$  from the entrance pupil of the observer's left eye. Let the positive made by the lens in the position  $L_2'$  be mounted at the same distance from the right eye.

The points  $A; M_1; M_2; A'; M';$  and  $M_2'$  correspond respectively to the points  $a; m_1; m_2; a'; m';$  and  $m_2'$ .

Now  $AM_1 = m(am_1)$   
and  $A'M_1' = m(am_1')$

Let us call  $M_1M_1'$  the displacement distance in the picture plane for the images which give rise to  $\theta_1$

$$M_1M_1' = d - (AM_1 + M_1'A')$$

$= d - m(am_1 + a'm_1')$

By using equation (1) and (6) we have

$$M_1M_1' = d - mb_1$$

$= d - \frac{ms'd'}{U_1'}$

(7)

Similarly the displacement distance for  $\theta_2$  is

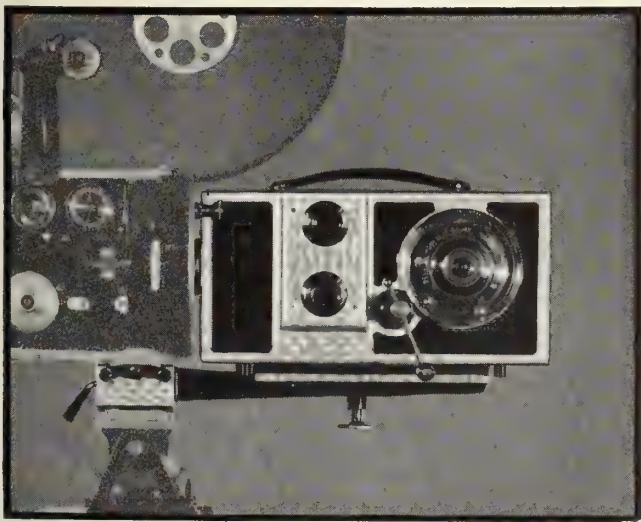
$$M_2M_2' = d - \frac{ms'd'}{U_2'}$$

(7)

These equations give the displacement distances in terms of the actual object distances  $U_1'$  and  $U_2'$ . We must now obtain them in terms of the object distances  $U_1$  and  $U_2$ .

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Let  $0_1 0_2 = r$ .

Let the distance from the plane of  $AA'$  to  $0_1$  be  $x$ .

$$\text{From similar triangles, we have } \frac{M_1 M_1' d}{x} = \frac{d}{U_1} \quad (8)$$

$$\text{and } \frac{M_2 M_2' d}{r+x} = \frac{d}{U_2} \quad (8') \text{ If we solve (8') for } U_2 \text{ we have}$$

$$U_2 = \frac{(r+x)d}{M_2 M_2'}$$

Substituting from (7')

$$U_2 = \frac{(r+x)d}{M_2 M_2'}$$

But  $(r+x) = U_2 - s$

$$U_2 = \frac{U_2 d - s d}{d - ms'd'} \quad (8'')$$

This can be written in the form

$$U_2 (U_2 d - ms'd') = U_2 (U_2 d - s d)$$

Now if  $0_1$  is to appear at the same distance from the eye as  $0_1'$  was from the camera, we have

$$U_2 = U_2' \quad \text{Substituting above, we have}$$

$$s = ms' \frac{d'}{d} \quad (9) \quad \text{This equation tells us how far in front}$$

of the eye the picture plane  $AA'$  must be located. A similar deduction shows that the same relation holds for the object  $U_1'$ .

For perfect reproduction there is another requirement, namely that there be no lateral distortion in the positions or dimensions of objects. Let us again refer to Fig. 3. It is evident that an object such as  $0_3'$  would be photographed by lens  $L_2'$  in the same position on the film as  $0_1'$ . A similar statement can be made in regard to an object  $0_4'$  and lens  $L_1'$ . Now,

$$\frac{0_3' 0_4'}{U_2' - U_1'} = \frac{d'}{U_1'}$$

and for true spatial representation this relation must be maintained in the stereoscopic photographs to be made from the film.

If the unprimed letters represent the case for the stereoscopic photographs, we have  $\frac{0_3 0_4}{U_2 - U_1} = \frac{d}{U_1}$  But

$$\begin{aligned} U_2 &= U_2' \\ U_1 &= U_1' \end{aligned} \quad \text{It follows that if}$$

$$\begin{aligned} 0_3 0_4 &= 0_3' 0_4' \\ d &= d' \end{aligned}$$

This indicates that for the condition of stereoscopic representation as obtained in the Wheatstone type stereoscopic pictures the camera must be moved the same distance between pictures as the interpupillary separation of the eyes.

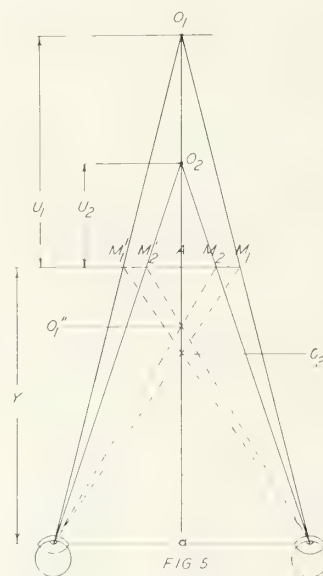
Now let the positives made from the negatives taken as in Fig. 3 be projected in sequence on a screen by a motion picture projector. Corresponding points such as  $A$  and  $A'$  (Fig. 4) are imaged at the same point on the screen. Thus in calculating image displacements, in

formulas (7) and (7'), the factor  $d$  becomes zero and we have

$$M_1 M_1' = - \frac{ms'd'}{U_1'} \quad (11)$$

$$M_2 M_2' = - \frac{ms'd'}{U_2'} \quad (12)$$

The negative signs indicate that the points  $M_1'$  and  $M_2'$  which, in Fig. 4, were imaged on the right hand side of the central line bisecting the interpupillary separation distance  $d$ , are now imaged on the left hand side and vice versa. Moreover, the displacement  $M_1 M_1'$  which in Fig. 4 was the smallest of the two, has now become the largest, ( $U_2' > U_1'$ ). The situation is represented diagrammatically in Fig. 5, in which the plane  $M_1 M_1'$  represents the screen. Furthermore, let us put no restrictions upon which images each eye can see. It then becomes evident that there are two sets of images possible, a pair  $0_1 0_2$  located behind the screen, and a pair  $0_1'' 0_2''$  located in front of the screen. One notices immediately that they



are in the inverse order in position to the images which were photographed, thus giving a pseudoscopic illusion. Now it has been demonstrated by numerous psychological tests that pseudoscopic images are seen only when the brain is not able in any other way to obtain information about the spatial relationships of bodies. Any previous knowledge about, or familiarity with, objects of the type being viewed would prevent the pseudoscopic effect from being obtained. Accordingly all objects so photographed would be interpreted as stereoscopic, even though the projected images

were pseudoscopic.

It is a matter of speculation as to just what the brain does when the choice is presented to it of forming a set of images in two different locations. As psychology cannot answer the question unaided, we shall have to take the results of actual experimental tests and from them try to arrive at some reasonable explanation.

The tests show that motion pictures taken by this new process have a remarkable degree of stereoscopic depth when projected. The stereoscopic effect is most pronounced for nearby objects. This is in accordance with the principles governing the action of the normal eyes which in actual vision cannot detect depth beyond a distance of about 450 meters. It is probable, then, that the eyes are selecting one of the two possible sets of images and ignoring the others. One cannot with certainty say which of the two sets of images would be favored, but there is some reason for believing that the images  $0_1$  and  $0_2$  lying behind the screen are the ones selected. Ordinarily, when one views a picture of any kind, it is seen to the best advantage when the point of fixation is behind the picture. The rays which enter the eyes from the



point of fixation intercept an appreciable area on the surface of the picture and all objects lying within this area are seen more or less clearly. If, on the other hand, one concentrates the attention on a single point of a picture, such as the limb of a tree, that point is seen clearly but no other. By habit, then, we are accustomed to locating points of fixation behind the plane of the picture being viewed. In Fig. 5,  $M_1'M_1$  represents a screen on which a picture is being projected. This is like the plane of the picture and points of fixation are probably located behind the picture for normal vision. Thus, without any special device in front of the eyes for excluding unwanted rays, the eyes themselves select one set and form the corresponding images in three-dimensional relief.

It is interesting to investigate the effect on the picture elements of diminishing the distance  $d'$  (Fig. 3).

In Fig. 5 we have (using  $0_1$  and  $0_2$ ) and Equation (11)

$$M_1M_1' = + \frac{ms'd'}{U_1'} \quad (11) \quad \text{(Since we are interested only in numerical values)}$$

But  $\frac{d}{M_1M_1'} = \frac{y+U_1}{U_1}$  where  $y$  = the distance of the observer from the screen.

$$M_1M_1' = \frac{U_1d}{y+U_1} \quad (13)$$

Equate (11) and (13)

$$\frac{U_1d}{y+U_1} = \frac{ms'd'}{U_1'}$$

$$\text{from which } U_1 = \frac{ms'd'y}{ms'd' + U_1'd} \quad (14)$$

Here the numerator is the factor which really determines the size of  $U_1$  and when  $d'$  becomes smaller,  $U_1$  becomes smaller so that transverse dimensions of objects are magnified more than depth. In the Natural Vision system of stereoscopic motion pictures, the value of  $d'$  is necessarily made small to prevent apparent motion of the projected images. However, due to perspective foreshortening and other psychological factors, the effect of the small amount of depth actually present is greatly magnified, giving the reality of normal vision as mentioned before.

Equation (14) can be put in the following form:

$$U_1U_1'd = ms'd'y + ms'd'U_1$$

whence

$$U_1 = \frac{ms'd'y}{U_1'd - ms'd'}$$

(15) For another object  $U_2'$

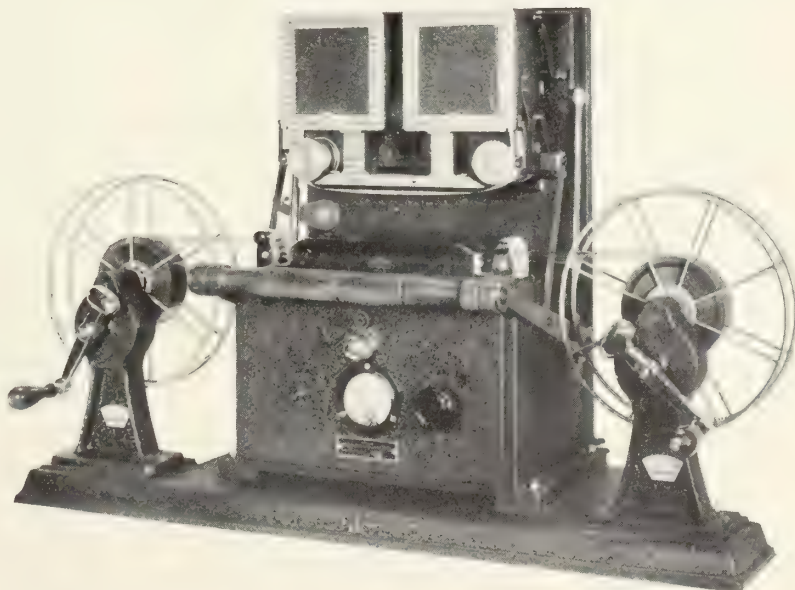
$$U_2 = \frac{ms'd'y}{U_2'd - ms'd'} \quad (16)$$

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Subtracting,

$$U_1 - U_2 = ms'd'y \left\{ \frac{1}{U_1'd - ms'd'} - \frac{1}{U_2'd - ms'd'} \right\}$$

This equation is useful in determining the relative distances between the images of objects projected on the screen. It also shows the relative distance between objects to be proportional to the distance of the observer from the screen. From it one can determine the amount of camera displacement  $d'$  necessary to give any desired amount of real depth, between the projected images. The apparent depth, as noted previously, is always much greater than the actual depth and it is the former with which we are really concerned.

In deriving all of the foregoing equations we have made certain simplifying assumptions which involve only second order corrections in the equations derived. For example, we have assumed that the camera lens was a single thin lens, whereas in practice it is always a highly corrected combination of lenses. In such a combination, however, there always exists a pair of fixed points called nodal points which have the property that if the object and image distances, respectively, are measured from the nodal points of the object and image space, the combination will behave like a single thin lens. Thus our formulae will be correct if we assume that object and image distances are measured from these theoretical points.

One of the greatest advantages of the new system of Natural Vision pictures lies in the elimination of a large part of the distortion so apparent to theater patrons who happen to be seated far to the side and relatively close to the front of the house. In the ordinary case, images are all projected on the same plane, which is the theater screen. The angle subtended at the eye by two objects in a horizontal plane is less when an observer is at the side than when in a central section of the theater. Thus, in the former position, these two objects will appear nearer to each other than in the latter case. On the other hand, the angle subtended at the eye by two objects in a

vertical plane remains the same when an observer moves from center to side of a theater. So, when an observer is seated at the side, objects on a theater screen appear to be elongated in the vertical direction. This distortion is very disagreeable and detracts from the enjoyment of the picture. In the new Natural Vision pictures, points are imaged not only on the screen but behind it as well, so that when an observer is at the side, the solid angle subtended at his eye by the solid pencil of rays defining a given object may be just as great as if he were seated in a center section. Due to this reduction in distortion, the side seats become much more desirable than ever before.

One of the very interesting things about the new system is the opportunity it affords for obtaining further information of a psychological nature regarding the methods by which the eye perceives depth. A number of psychological factors are involved in these Natural Vision pictures. The significance of these factors has not been completely worked out, but it is hoped that this can be done at some future time.

#### IN SUMMARY:

1. The Natural Vision process produces stereoscopic moving pictures reproducing the depth seen in Nature, thus departing from all present moving pictures and adding greater clarity and beauty.
2. The Natural Vision process reduces distortion in motion pictures when viewed from theater side seats.
3. The Natural Vision process employs an oscillating mechanism supported by standard tripod and moving a standard camera. Camera, film, development, printing, projection, screen and sound are standard equipment and practice.

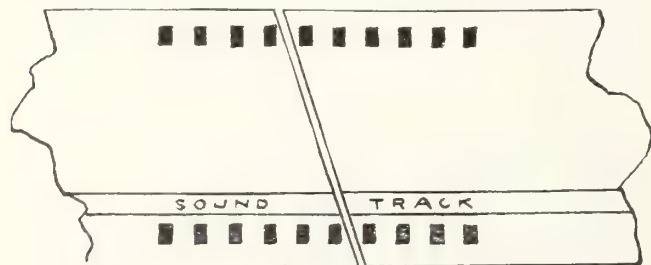
The writer desires to acknowledge his indebtedness to Professor Ellis of the Psychology Department of Pomona College for the opportunity of discussing the psychological aspects of this system of motion pictures and to Professor Leighton of the Chemistry Department of Pomona College and Mr. Ramsey L. Harris of the Norton School at Claremont for their helpful criticism.

THE END

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# Stand By for CRASH!

## Fruitless Quest of News-Reeler for the Wreck of the Akron—Death Hazard in Flight Over Dark and Stormy Sea

[Written by Al Wetzel of the News-Reel Division, Local 644, I. A. T. S. E., New York, by request of Charles P. Boyle, and forwarded by President F. W. Strenge, Local 644, for exclusive publication in THE INTERNATIONAL PHOTOGRAPHER.—Editor's Note.]

"Stand by for Crash!"

If anyone of you had been aboard the U. S. Akron while it was on a flight over New Jersey and Pennsylvania on the night of April the third, you might have heard such an order given by the captain of the ship—an order given as would any other order be given with coolness and collectiveness that is typical of the officers of the United States Navy.

Having served some sixty hours in the air in the Shenandoah and the Los Angeles I might say that, on such a flight, no matter what its purpose, is when a giant airship cruises through the night, the personnel which changes watch every four hours usually are at their posts in various parts of the ship and the alternate crew is usually getting rest and sleep in their quarters, and that only those necessary in the operation of the ship are in the control gondola and at their posts at the motors, controls, elevators, rudders, radio and various necessary duties.

Occasionally guest officers and civilians have freedom of the ship on these flights and to me the most interesting was the control cabin. So my description of the control cabin on this particular night would be of Lt. Commander Wiley directing operations of the airship with the captain of the ship supervising the operations.

Other officers in charge of motors and various duties enter and leave the cabin in the performance of their duties. To me the men who operate the elevators and the rudder seem to be the busiest in the cabin. At least they are continually checking and turning the wheels that keep the ship on the horizontal and vertical courses. Usually this is the routine that takes place and when the weather is clear and visibility is good this is commonplace to those aboard the ship.

The particular flight of the Akron on April 3rd was for the purpose of checking or calibration of radio direction finding stations in New England, and the ship left its hangar at Lakehurst about 7:30 P. M. with a mild six mile wind. On the ground the weather was foggy and I personally noticed that, on my way home to Great Neck, the fog was rolling in. No I was not on the ship that eventful night. I was in New York during the day and drove home about 9 P. M. and, as I reside on the water's

edge, I noticed that it was getting worse as I had difficulty in cutting the fog with my headlights.

While reading the evening papers and writing a letter rather late, I noticed that it started to thunder; this was about the first thunder of this year and I also noticed the wind started to kick up and it developed to a good sized electric storm. The storm broke about midnight and was still raging when I retired for the night about 1:30 A. M. A real good night for sleeping I thought, but all of a sudden I found myself being shaken and was told the phone had been ringing and the call was for me. I looked at the clock; it was 4:00 A. M.

At first I could not understand the questions put to me, but finally I was asked if I had heard that the Akron had crashed. My answer to that was: "You can't fool me; April first is past!" Then my caller asked me if I was working and I said no. Finally I realized to whom I was talking and it turned out to be Mr. Montague the assignment editor of Paramount News. The next thing that was asked me was if I had my camera at home and some film. I assured him I had and he said: "Jump into a taxi and go to Flushing Airport and get a plane and go out and try and get some pictures of the crash."

The only information he could give me was that the Akron had crashed at sea about thirty miles east of Barnegat Light.

"Call me before you leave and return to Newark Airport and there will be some one there to rush my film to the lab.," he said.

Believe me that was hard to digest at four in the morning, but I kept thinking it over and by the time I had dressed and collected my equipment I was fully awake. I jumped in my car and, although the fog was heavy, I made fine time to the airport which is about eight miles from my home. I had to get the night watchman up and helped him to push planes around and gas up, only to find out that some one had made arrangements ahead of me by 'phone and I could not get a ship. A still man said I could go with him, but the plane was an open cockpit Travelair and it was starting to rain. I hated to go in an open job.

The Associated Press man on the assignment said he had talked to Clarence Chamberlin and that he had a cabin plane so I got busy on the phone and finally got Chamberlin to take me. Mr. Chamberlin is internationally known as a pilot and will be remembered as the

(Continued on Page 36)



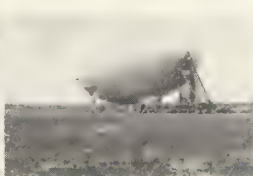
The L. A. with plane hooked on.



The J-3, the small ship that crashed same day.



Interior of the control gondola of the L. A.



The Los Angeles at her mooring mast.



Shot of Wetzel in the control gondola.

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# The BEGINNINGS of the DRAMA

By  
EARL THEISEN

*Honorary Curator of Motion Pictures, Los Angeles Museum*

That democratic art, the motion picture is founded upon the same premises as the modern legitimate theater. They both have a common ancestry, which dates back to obscure historic times.

Among the earliest theatricals were the revels during the festivals of Dionysus, the Greek god of the theater. In the Festivals of Dionysus could be found a showmanship that smacks of the 20th century spectacle, as well as something of the convention of the modern theater. This god of Greece had the power of lifting human beings to the divine ecstasies. He was a god of the common people, and he raised his celebrants to inspired moments. In the Dionysian revels, the audience of worshippers were catapulted by dance and ceremony, from one episode to the next, to a final intoxicated climax. So we find in the drama today. The present day audience is carried from one sequence to another to a final transcending climax. They are bombarded with impulses beyond their daily pattern.

The dramaturgic impulses have long been rampant in man. It is certain that these impulses date back to man's prehistoric dawn. It is possible that the taking of the rib from Adam was accompanied with a dramatic ceremony. At least such a thing should have been done in time to an impressive ritual.

The earliest forms of drama were founded upon tribal dances of a religious nature, with priests as interpreter-actors. From the first it was the hope of the priests, who were the earlier philosophers, to raise the common people on a par with their cultures and philosophies. It was their hope that one would assist the other to a perfect unity. The most effective means in accomplishing this was by dramatizing. What ever the early man wanted that was beyond his physical power he tried to get by dramatic ceremony.

George T. Walterhouse, an authority on the early drama, says, "The ancient Greek ancestor of modern drama sprang from religion. Like other primitive peoples, the early Greeks attempted to bring about proper functioning of moon, sun, and reproductive forces by means of ceremonial costume dances. They believed that they became whomever they impersonated and that whatever they enacted would actually happen. The result was not unlike an old-fashioned camp meeting."

As the Greeks grew more sophisticated, this confusion gave way to order. The ceremony was planned in advance. Eventually a poet was selected to write the lyrics and to work out the motion to the smallest detail. Such refinements made rehearsals necessary. The participants, now restricted in number to a formal chorus, were entrusted to the poet for training. At the performance they were led by the poet.

As leader of the chorus, the poet came to reserve certain lyrics for himself. Then he commenced to impersonate characters. Thus individual acting and drama, of

which elements had been present from the beginning, came into being. According to tradition, Thespis made this innovation of impersonation of characters and won the first Athenian tragic contest in 534 B. C. These were dramas with only one actor.

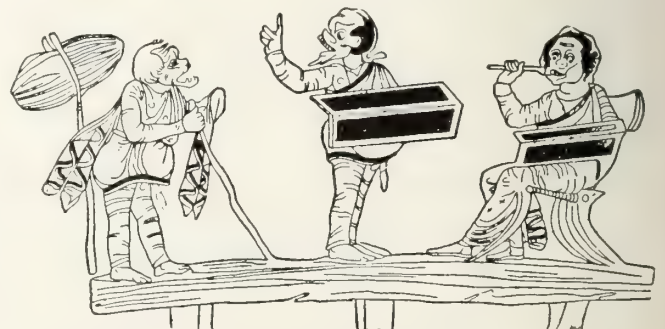
Aeschylus, during 525 to 456 B. C., was the first of the great tragic poets. He introduced a second actor. Most of his seventy-odd plays were handled by only the two actors and the chorus. Probably his three most famous plays were "Prometheus-Bound," and "Agamemnon," and "Suppliant Maidens," all of which have been reproduced many times throughout the history of the theater. Aeschylus is noted as a pioneer in stagecraft.

A third actor was added by the second great tragic poet, Sophocles, during 496?-406 B. C. The first actor, the protagonist, usually played the chief character, while the minor parts were divided between the second, the deuteragonist, and the third, the tritagonist.

In these tragic plays, which played such an important part in Grecian history, the actor shifted masks to indicate that he was changing from one character to another. This practice did not seem ridiculous to these early audiences; and the use of masks dated as they did from the early ceremonial dances, and the idea that a person became whomsoever he impersonated still lingered. Nor did the audience object to the most obvious limitation of the mask—absence of changing facial expression.

The open-air theaters were large, seating as they did about 20,000, and stage lighting at its best would have been some flaming knots or oil lamps; hence most of the spectators could not have seen the facial expressions. Then the mask had this advantage—its carefully constructed mouthpiece amplified the voice. And probably because of the need of a robust voice, all the players were men.

At this time many character types came into being that are still used to symbolize certain personalities. The hero and heroine wore a blond wig; the clown or light character wore a mask with a snub nose; the comedian's masks had a big mouth or protruding nose; while the



A comedy scene taken from a vase drawing. This shows the characteristic masks and costumes used in the earlier forms of comedy.



heavy used a sleek black wig, and as is the custom today he featured a beard.

Lest the actors seem unduly small under these outdoor stage conditions, the actors increased their stature by wearing padded garments and stilt-like boots, or 'buskins.' These effect costumes are thought to have been originated by Aeschylus.

The artificiality of masked, padded, and buskined actors might have been avoided by changes in the construction of the stage and the theater. Such changes were, however, unthinkable. The ceremonies had, originally, occurred at the temples, which often consisted of only an altar on the temple porch. When places began to be constructed especially for the drama, the temple top became the stage and the porch became the orchestra place. The theater, like the temple, was a sacred place, and tradition forbade radical changes in design. The altar and the door behind it always remained. These constituted the only scenery, and since death and tragedy were important parts of this drama, the altar was either used as an altar or a tomb. The audiences, who continued to watch from the open, imagined an incidental setting.

There were, of course, minor changes with the pass-

ing of time. At the sides of the stage two additional doors were added. Benches were provided for the spectators, who sometimes numbered twenty thousand.

The spectators to these plays were quite demonstrative, when pleased they clapped and shouted their approval, or they had certain episodes encored several times. And when displeased they hooted and knocked their sandals against the seats. The country folk brought olives to throw during unpopular passages.

Everyone went to the theater when the plays were on. If a seat could not be bought, less desirable seats could be had free from the state. The plays at first were only given once a year for one week during March. Later, especially for the plays of the last great tragic poet, Euripedes, who lived during 480 to 406 B. C., stage machinery was introduced. These consisted largely of devices for lowering gods to the stage.

The chorus, which had originally been the worshipping dancers, was a fixture throughout the tragic period. However, it gradually became subordinated to the actors. Because there were only three actors, due to tradition, the number of characters in the play was always small. Because there was no stage setting, the audience had to

*(Continued on Page 30)*



*Photos Courtesy Los Angeles Museum*

Upper Left—Theater of Dionysus, at Athens, the most famous theater the world has known. It was constructed during the Roman period. It has a raised stage and a semi-circular orchestra for the use of the dancing chorus.

Lower Left—The theater at Epidauros, typical of the theater of the fifth century.

Upper Right—The Roman theater at Aspendus, showing the stage which had for scenery a house front; the best preserved of the early theaters.

Lower Right—The Roman theater at Epheus. This shows what happened to the theater during the middle ages, when all drama came to a pause due to the imperial license in favor of the Christian church.

Please mention The International Photographer when corresponding with advertisers.





### FINE WORK

Gordon Jennings, assisted by his brother Dev, did the special effects on the Paramount special, "King of the Jungle," featuring Buster Crabbe. Lucky Humberstone directed and the production is pronounced a technical masterpiece. Gordon Jennings is head of the Paramount special effects department and the work of the brothers is a feature of the production.

### EFFICIENCY

Douglas Shearer, chief sound engineer at the M-G-M Studios, has a Western Electric Type 12A loudspeaker in his office. It is wired directly to the amplifying room and can be hooked in on the sound channels of every sound stage on the lot. A volume control sound panel is conveniently at hand near his desk for regulating purposes. This enables him to detect any trouble in the system and quickly determine and rectify the cause. In addition to this novel and efficient method of keeping his finger on the sound pulse of his department he has a Western Electric 4-D receiving unit equipped with a 2-B tuning unit, hooked up with the same loudspeaker for radio reception.

### A HIVE OF INDUSTRY

The Paramount still department is a hive of industry under the capable management of Harry Cottrell. His photographic staff consists of some of the best artists in the industry. They are Eugene Robert Richie, the portrait artist; Irving Lippman and Don English, publicity wizards; and William Walling, Jr., Mack Elliott and Sherman Clark, crack production still photographers.

To give some idea of the amount of material used in this department during a year, figures are submitted:

54,000—8 by 10 negatives; 12,000—4 by 5 negatives; 5 tons of Hypo; 2,000 lbs. of sodium sulphite, and other ingredients in proportion.

The equipment in the still laboratory is of the most modern type and much credit is due Harry Cottrell for the efficient manner in which this department functions.

### LOST

The Tom White Expedition, of which Guy Wilky and Paul Perry were the cinematographers, recently returned from Ceylon. While en route from Ceylon and while transferring from the S.S. Porthos to the S.S. President Coolidge at Hong Kong, a perfectly good recording head was either lost or stolen. If stolen someone evidently thought it a camera and made away with it. Fortunately, however, the equipment was fully covered by insurance placed through E. Broox Randall & Sons, a leading Hollywood firm of insurance underwriters, and full settlement of the claim was immediately made.

## TEK-NIK-TOWNE

### PROGRESS IN MAKE-UP

Do you know that the Max Factor Company maintain a research department where make-up problems are worked out for your benefit? If you have never availed yourself of this important service you should get acquainted with it. This department has been expressly established for the benefit of the studio make-up artists, as well as the individual stars. We recommend a closer co-operation with this important service.

### SPECIAL EFFECTS LAB

The Special Effects Laboratory, owned by Ray Mercer, is another valuable addition to the industry. Mr. Mercer claims to have perfected a smooth fade or dissolve. It is well known that a camera does not make a perfect fade, because the exposures drop off too abruptly.

Mercer's fades are made on the original negative from 1 to 14 feet in length and perfectly graduated in density. A great many of the recently released pictures contain a bit of Mercer's handiwork, unpublicized and perhaps unknown, most of his work being done on a sub-contract basis.

Some of the interesting effects he has devised are, first, the turning page change of scene and a new one as yet unused; the effect of a scene sliding off the screen and a scene sliding on at the same time. This is not an ordinary wipe-off. In addition to these Ray has many other effects worth while looking into.

### WORLD'S FASTEST LENSES

The Mitchell Camera Company has received a shipment of new Astro lenses with the enormous speed of F:0.95.

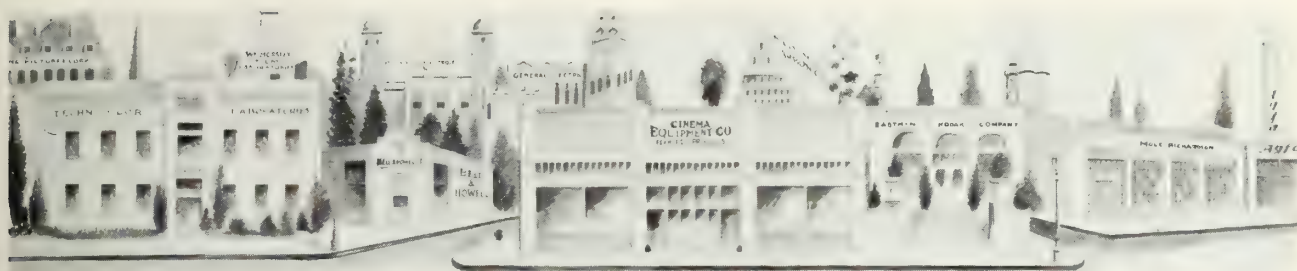
These lenses have a theoretical speed of twenty-two times that of an F:4.5 or four times that of an F:1.9.

Not to be outdone, the Carl Zeiss Company announce a lens with a guaranteed relative aperture of F:0.85. It is primarily intended for X-Ray cinematography. Wonder what the next step will be?

### NEW MOVIOLA

Iwam Serrurier, of the Moviola Company, announces the completion of a new Moviola incorporating many new features. It consists of four heads, one for viewing and three for sound track, each with volume control. Split or full width sound film can be used. This machine will permit the film editor to combine dialogue, music and sound effects and determine the best combination.





## TEK-NIK-TOWNE

### REZ-FOG

Steve Rez' discovery of a new artificial fog with the qualities of safety, stability, harmlessness, ease of application, natural appearance and beauty, performed a distinct service to the production department of motion pictures.

Mr. Rez has been for several years a painter in the studios and he is classed as a spray gun expert—one of the best in the world. During the past three years he has been in the paint department of R-K-O studios and his new fog has been in process of testing during the past two years. So perfect was its performance in **KING KONG** and **THE MOST DANGEROUS GAME** that Mr. Rez received personal letters of endorsement from Merian C. Cooper and Ernest B. Schoedsack of R-K-O, also the highest praise from Eddie Linden and Henry Girard, chief of cameramen, respectively of **KING KONG** and **THE MOST DANGEROUS GAME**.

The new fog can be placed where desired, in the required consistency and will stay where placed. It is not in the least harmful to human beings, animals, clothing, metal, plants or any growing things.

It is not liquid smoke or anything like it and, to all intents and purposes, it appears to be the perfect product in its class.

### MEASURING MARVEL

The Cragar Corporation, precision engineers, have, as part of their equipment an instrument capable of measuring to .000005 of an inch. This is splitting hairs rather fine, particularly when you consider that a hair measures from .002 to .004 of an inch in thickness. It is a Pratt & Whitney measuring machine with plugs accurate to .000005 of an inch and to insure accuracy of measurement this instrument is used in a constant temperature of 72 degrees Fahrenheit.

The Cragar Corporation claims that this is the only instrument of its kind west of the Mississippi River. A year's time is required for manufacture, it being necessary to thoroughly season the metal, and great care exercised in its manufacture.

In addition to this valuable piece of equipment, every class of precision machinery is represented and available for the most advanced type of mechanical research.

There recently has been a change in the management of the Cragar Corporation and as a part of their service arrangements can be made to rent machines and space. An interesting thing in connection with their plant is that it was originally erected by King C. Gillette, of safety razor fame, to be used as a technical research laboratory for inventors, all on a non-profit basis.

### MEGOFLEX

Cliff Thomas, of the Hollywood Camera Exchange, has just received a shipment of Megoflex Critical Focusers. The Megoflex is an ideal finder and distance meter combined with an automatic focusing adjustment, and by attaching the Megoflex to your Leica it will be converted into a reflex camera.

### PRINTED INSERTS

Do you know that the Earl Hays Press is the only print shop solely devoted to the making of printed inserts for motion pictures? Mr. Hays prints anything from a theatre ticket stub to a newspaper. He printed the first full page newspaper used as an insert in "Speed Girl," a Bebe Daniels picture produced in 1921.

## DeVry Sound Recording Camera

*(Continued from Page 8)*

tains uniform speed even with a variation in load or voltage of 15 per cent. Gears are of steel and micarta throughout. The camera has been completely silenced. Three lens turret provides for instantaneous change to different lenses.

### DeVry Amplifier

The DeVry recording amplifier is self contained in a compact case. It is equalized to compensate for loss in processing of the film. Non-microphonic tubes are used and it is provided with wire wound resistances, non-inductive condensers, filtering in all grid and plate circuits. Meters enable all circuits to be checked at a glance. The volume control operates silently and smoothly and a monitoring jack enables the operator to determine exactly what is being recorded. A calibrated volume indicator is built into the amplifier and coupled to the output, and indicates the actual decibel level into the recording lamp. This amplifier will operate on any type of recording lamp, either two or three element, and will record frequency range from 20 to 12,000 cycles with the proper lamp and lens system.

The DeVry amplifier incorporates the most radical improvement made in years, in the matter of reducing weight and bulk of sound recording equipment. This improvement greatly reduces the bulk, weight and number of parts of recording camera equipment. Whereas other complete sound recording systems weigh from 600 to 1,600 pounds friction head—the DeVry complete weighs less than 150 pounds, including every item of equipment—camera, magazine, storage battery, microphone, tripod and all necessary cables. This radical

*(Continued on Page 46)*





A group shot of the Eskimo after the Caribou kill. The houses are a temporary shelter made of rocks with caribou skin as roof. On the left may be seen the Umjaks or skin boats made of walrus hide. These boats are their only transportation so far as the water goes. In background is seen the ceremonial dance celebrating the Caribou hunt and kill. From the M-G-M production "Eskimo." Directed by Col. W. S. Van Dyke of "White Shadows" and "Trader Horn" fame.

*Photo by Roy Clark.*

### NEW FEARLESS HYDRAULIC CAMERA DOLLY

The Fearless Camera Company has announced its latest development in a camera dolly. Their new dolly has three wheels and the front wheel may be rotated through an entire circle. The dolly base is a large aluminum casting with a floor approximately 40 by 74 inches in size, allowing ample room for a cameraman, assistant cameraman, director and mikeboom soundman to be carried on the dolly. Provision is made in the base for carrying lights and a mikeboom support column is furnished with the dolly.

Extraordinarily low camera angles may be had with this dolly which has an elevation range from 18" to 66". From the floor to the top of the friction head is 18" in the low position, when using the baby elevator. This baby elevator has an adjustment range of 9", thus giving positions from 18" to 27" from the floor to the top of the friction head. Lens positions when using the camera outside of a blimp and when using the baby elevator are from 22" to 31". When an Educational type blimp is used the lens positions are 25" to 34" with the baby elevator. The baby elevator is screwed into a carrying boss over the front wheel when not in use.

The main elevating column is of the hydraulic type, although a screw type can be furnished as optional equipment. This elevator has an elevation range from 25"

to 67" to the friction head which gives lens center elevations of 32" to 74", when used with an Educational type of blimp. Extremely massive construction has been used in the guiding column which is entirely separate from the elevator mechanism. Large steel tubes prevent any play or shake of the camera, even while in the top position. Suitable clamping locks hold the friction head in any desired position. A valve is used to control the speed in lowering the camera from its elevated position. A continuous flow type of pump is used to force the oil into the hydraulic ram for elevating the camera.

Automatic cable reels can be readily attached to this dolly so that cables do not interfere with dolly operation when making a dolly shot.

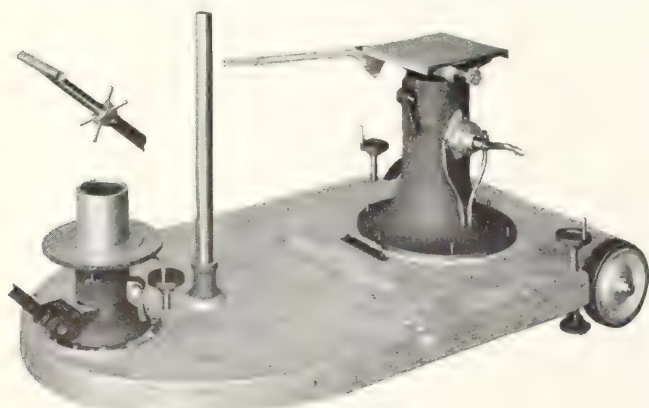
Electric motor drive, of the silent type, can be furnished and when this is used the dolly may be steered from the dolly floor.

The entire construction embraces the finest engineering practice and all materials used are of the very highest grade.

Patent applications are pending on the design and numerous unique features of construction.

### THE FILM PARADE

Commodore J. Stuart Blackton has produced an epic. A glorified history on the screen, of the screen. "The Film Parade" shows the progress of the art of motion picture photography from its inception to the present day and is of especial interest to anyone that appreciates the changes that are so apparent. The fact that the first commercial efforts of projected film dates back only thirty-six years is marvelous. You see the progressive jumps in technique of acting, sets, smoothness of cutting, etc. The changes in lighting are very noticeable. It has shown how trick photography was discovered and how sound was first used; also to see some of the present day favorites in some of their efforts is very amusing. When you read the following list of names, understand what they represent and consider the era of their fame you will realize what a vast amount of energy must have been expended by Commodore Blackton to procure



The Fearless Camera Dolly with the standard camera support in position. Note high hat being carried on front of dolly.

Please mention The International Photographer when corresponding with advertisers.



Mala, our leading man, congratulates another "Eskimo" couple on the arrival of their new born—shot at the Eskimos' summer camp far into the Arctic Circle. The tent on the left is rather similar to the Indian tepee only made of Caribou skins. An M-G-M production of "Eskimo." Directed by W. S. Van Dyke; Clyde De Vinna, chief cinematographer.

*Photo by Roy Clark.*



their representation—truly a historical list of screen fame: Mary Pickford, Charlie Chaplin, Douglas Fairbanks, Lionel Barrymore, Rudolph Valentino, Maurice Costello, John Bunny, Clara Kimball Young, Sidney Drew, Gladys Hulette, Cissie Fitzgerald, Paul Panzer, Flora Finch, Anita Stewart, Earle Williams, Milton Sills, Tom Mix, Buck Jones, Ramon Novarro, Dorothy Gish, Barbara LaMarr, Lillian Gish, Bobby Harron, Mabel Normand, Bessie Love, Ben Turpin, Francis X. Bushman, Blanche Sweet, Bobby Vernon, Broncho Billy, Alla Nazimova, Oliver Hardy, Larry Semon, Malcolm MacGregor, Edna Purviance, Lon Chaney, Robert McKimm, Marguerite de la Motte, Jimmie Finlayson, John Gilbert, Renee Adoree, Mickey Mouse.

#### **VICTOR ANNOUNCES COMBINATION 32V-110V, AND UNIVERSAL 110V TO 250V 16 MM. PROJECTORS**

Two new projectors have been added to the Model 10 Series by Victor Animatograph Corporation, Davenport, Iowa, to meet certain domestic and foreign demands.

In numerous midwestern and northwestern communities of the United States, many schools, churches and homes derive their electric power from 32 volt lighting plants. In these same localities are towns serviced with 110 volt current, with the result that county agents, school superintendents, salesmen, etc., must provide for both voltages in connection with the use of picture equipment. Heretofore the equipment owner found it necessary to buy both the 110V and 32V motors and lamps and to interchange them when necessary.

The new Victor 10C Projector, which is a combination 32V-110V equipment, has already been enthusiastically received in such communities.

Both the Models 10E and 10C will have all of the latest improvements of the Model 10 Series of Victor projectors, including Hi-Power Optical System, Rack-and-Pinion Tilt, Pilot Light, etc. List prices for the United States will be \$198.00, complete, including carrying case.

Donald B. Oliver, better known to the photographic



Mr. Henry Kruse, member of Local No. 659, of The International Photographers, has joined the staff of this magazine as assistant to Manager Edward Edward T. Estabrook.

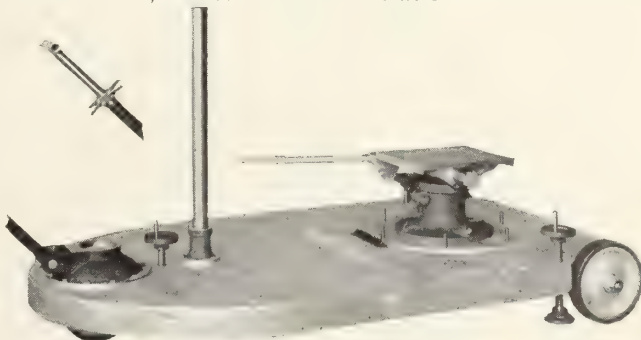
Mr. Kruse, besides being an efficient cameraman and an orchestra leader of skill and accomplishment, is a natural born mixer and, therefore, popular with the studio folk and the clientele of our publication.

Any courtesy extended to Mr. Kruse will be appreciated, not only by the management of The International Photographer, but by the entire personnel of Local 659.

This announcement will constitute Mr. Kruses' credentials to negotiate for advertising and subscriptions and to arrange for art and editorial matter for publication in the magazine.

It is not out of place here to call attention to the fact that Mr. Kruse is conductor of the Paraval Dance Club and orchestra, 2905 Sunset Boulevard.

trade as "Captain" Oliver, has severed his connection with Bell & Howell and entered the service of Victor Animatograph Corporation, Davenport, Iowa. Oliver will work as a special factory representative, contacting Victor Distributors and Industrials throughout the middle west, south central, and south Atlantic states.



**New Fearless Camera Dolly with high-hat in position showing minimum height.**

**Please mention The International Photographer when corresponding with advertisers.**





An unusual shot by Gene Kornman, still-man on Jessie Lasky biographical production, "The Power and the Glory"—a Fox release. William K. Howard was the director and James Howe, cameraman-in-chief.

## A TRAGEDY IN SOUND

Charles Edgar Fritts might have been another Steinmetz or Edison, had not poverty and physical disability combined to thwart him. From the records of his patents his interests extended over widely separated fields, including subjects listed under such cryptic headings as "Curtain Fixtures," "Telegraph," "Car Coupling," "Selenium Cells," "Methods and Means for the Transmission of Electric Currents," and others too numerous to mention. At his death his papers included many original ideas in a wide variety of fields for which patent applications never were made and which, therefore, were never put to practical use.

But the invention for which posterity will chiefly remember Fritts is that filed in the United States Patent Office on October 22nd, 1880, which describes new and original means for photographing sound and reproducing it photographically which forms the basis of all modern sound motion picture recording and reproducing systems in use today.

In the early 1880's Fritts constructed a device for photographically recording and reproducing sound which was successfully operated in his laboratory. He used a light slit about 100 mils wide. But according to the records it was fully eleven years after his pitiful death that his basic patent, No. 1,203,190, was granted—thirty-six years after it was filed. The reasons for this unprecedented delay were many, but perhaps chief among them was the fact that the principles covered in his application were so original that they were not at first comprehensible to the Patent Office officials. This patent covers broadly—photographic recording of sound, photographic reproduction of sound and a photographic sound record. It correctly delineates the underlying principles which are utilized today. This patent was acquired by the Victor Talking Machine Company and later transferred to RCA Photophone, Inc. The only

fault of Mr. Fritts' invention is that it appeared before the world was ready to receive it. Half a century later, others erected a large industry on the firm foundation prepared by Mr. Fritts. But he died in poverty, wretched, disappointed and bitter like so many creative leaders who were in advance of their time.

Charles Edgar Fritts was born October 13, 1838, at Oneonta, Otsego County, New York, the son of William S. and Lydia McDonald Fritts. He died in New York City April 7, 1905. He was educated in public schools of Oneonta, followed by three years in Select School. From there he went to Delaware Literary Institute at Franklin, New York, where he showed especial proficiency in Greek, Latin and German. After two years, however, he was obliged to interrupt his studies and go to work.

Fritts kept abreast of his varied interests by supplementing his formal education with systematic and diligent reading of scientific and technical journals, and by minute and painstaking study of a number of the best known work on physics, chemistry and kindred sciences.

He taught school for a year, then learned the watch-making and repairing trade. After an unsuccessful venture in the nursery business, he returned to watch repairing. In his chosen work of watch repairing, he was very successful. His fame in this work is shown by his books, each of which was, and the last still is, an authority on the subject. Later, when he had established his home in New York, he was engaged by a Mr. Hopkinson, a former acquaintance and editor of the Jewellers' Circular, to write articles for the paper. Under the name of "Excelsior," he conducted an inquiry column in the Jewellers' Circular that made him widely known in that field. Subsequently, he was presented with a massive gold medallion with the following inscription:

Presented to Excelsior by the watch makers of America, as a token of the esteem in which he is held, and a mark of the admiration won by his practical, instructive and intelligible Treatise on Horology, New York, 1877.





players were Spencer Tracey and Colleen Moore. Looks of trouble to get one or two little shots—but that's what movies—movies.

Mr. Hopkinson, together with several others, furnished funds for the development and patenting of Fritts' inventions. A laboratory was established where he worked, slept and prepared his own meals. He occupied three small rooms in a modest building consisting of a bedroom, kitchen and space for the laboratory paraphernalia.

With the aid of two young assistants who came to help him by day, he conducted elaborate and exhaustive experiments of which he made and kept complete notes. It was here that Fritts developed and perfected his selenium cells which brought him world fame and made him a recognized authority on the subject. One of his projects was an attempt to make selenium cells so sensitive that they could photograph a person talking on the telephone and permit the person on the other end of the phone to see him.

Physically he was not strong. He had some leg trouble as a boy which with the advancing years became worse until it finally incapacitated him almost entirely. One of his legs had been amputated in the 70's and he wore an artificial limb thereafter. He was also hard of hearing.

When the funds furnished by Hopkinson and others had become exhausted, the experimental work was discontinued as he had no funds of his own. He then relied entirely on his writings as a means of livelihood, and continued to furnish articles for the *Jewellers' Circular* until about 1894.

Of a secretive nature which confided in no one, he kept very much to himself and was not inclined to make or keep friends. His physical disability increased so that he was helpless from the waist down. After severing his connections with the *Jewellers' Circular*, his fortunes grew steadily worse. He barely subsisted on the meagre royalties that came in from the sale of his books. He kept to his rooms almost entirely and one summer was in such straits that he lived on milk and bread alone. Another winter he was so cold that he had to pack newspapers around his back and chest to try to keep

warm. His paralysis grew worse until he was entirely helpless. One night he fell out of his bed and was unable to make his way back without calling for help. Although sick almost all of the time he was too poor to summon medical aid, until at the end he was taken to a hospital where he died in 1905, at the age of 66. He was buried in the family plot, Riverside Cemetery, Oneonta, New York. Under these pitiful conditions did one of the most promising inventors of the century spend his life, to die unrecognized and unrewarded, bitter against his unsurmountable hardships to the end.

### LOST OR STRAYED?

Was \$1,500,000,000 taken in last year at the box offices of the motion picture theatres of the United States?

Did the pictures that were exhibited in these theatres cost only \$150,000,000?

Is it a fact that the studios get back out of every dollar received at the aforesaid box offices only 13c?

All right, then, 13 cents out of one billion, five hundred million dollars equals \$195,000,000.

Now if the studios spent only \$150,000,000 during that time there is \$45,000,000 in profits lying around loose somewhere, for the difference between \$195,000,000 and \$150,000,000 is \$45,000,000. And yet the studios are hard up.

Heigh! Ho! Funny how a little item like \$45,000,000 can be misplaced.

### CONQUERS THE WORLD

Pliny Goodfriend departed via Continental Air Lines, March 22, for New York, where he will outfit for six months to the upper Amazon. There he will do the camera work on a big production sponsored by a well known author whose name for the present may not be divulged. The locale is in a place where white men have never yet pushed their explorations. Slowly but surely the cameraman is conquering the world.



EASTMAN  
FILMS

BRULATOUR

## WHAT'S WHAT!

Published Monthly by J. E. Brulatour, Inc., Distributor

## FOX

With resumption of production at the Fox Western Avenue Studios, under the supervision of Mr. Sol Wurtzel, and continued heavy schedule at Movietone City, the Fox production program currently tops volume consumption of Eastman Super-sensitive Panchromatic negative on the West Coast.

JOHNNY SEITZ is turning in final scenes on the Janet Gaynor picture, "Adorable," under the direction of William Dieterle. Seitz is seconded by Joe McDonald, with Lou Molino and Eddie Collins as assistants.

LEE GARMES is putting the finishing touches to the Lillian Harvey picture, "My Lips Betray," under the direction of Jack Blystone. Associated with Garmes on this production were Warren Lynch, Johnny Schmitz, Jockey Feindell and Stanley Cortez as seconds, with Warner Cruze and H. C. Smith as assistants.

LOU O'CONNELL is in the final production shots on the Frank Craven production, "Five Cents a Glass." Don Anderson is the second cameraman; Harry Daw and Russell Hoover, assistants.

JAMES WONG HOWE, assisted by Paul Lockwood and Harry Webb, is photographing the Spencer Tracy opus, "Power and Glory."

ARTIE MILLER is in charge of the cameras on Dave Butler's current production, "Hold Me Tight," starring Jimmy Dunn. Joe La Shelle is second cameraman, and Bill Abbot and Al Lebovitch, assistants.

BOB PLANCK is the Number One boy on the Wurtzel unit at the Westwood plant photographing, "It's Great to Be Alive."

HAL MOHR, who topped his previous fine efforts with "State Fair," is turning in a photographic encore in "I Loved You Wednesday." Bill Skall and Irving Rosenberg are the seconds, Bob Surtees and Robert Mack, assistants.

ERNIE PALMER, who continues to take bows on "Cavalcade," has started work on "Berkeley Square," under the direction of Frank Lloyd. Ernie is seconded by Dave Regan and Jake Badaracco, and assisted by Bud Mantino and Jack Epstein.

## UNIVERSAL

JOHNNY HICKSON is on another serial and has associated with him Bill Sickner at first camera, Buddy Weiler, Carl Meister and Charley Crane, as assistants. Len Galezio is doing the air stuff with Paul Hill assisting him.

LEN POWERS has completed another Warren Doane comedy entitled, "Their First Case." (Wonder what kind of a case?) Jimmie Horne directed, and the assistant cameramen were Walter Williams and Harold Graham.

FRED CAMPBELL, formerly in charge of the Pathe camera department, is now holding the same executive position at Universal where he is obtaining the fullest cooperation of all his co-workers.

## M.G.M.

RAY JUNE continues to turn in his best brand of photography on the M.G.M. production, "When Ladies Meet." He is seconded by Les White and assisted by Wilbur Bradley.

OLLIE MARSH is back in production with Clarence Brown on a big aerial epic, "Night Flight." Associated with Marsh (on the ground work) are Fitzgerald and Meade, and on the air stuff, Elmer Dyer, whose activity is reported in another section of this Bulletin.

HAL ROSSON, following a few days' vacation, has resumed work with Sam Wood on "Hold Your Man." Rossion has Dick Wade as second and Harry Parkins as assistant.

GREGG TOLAND and CLYDE DEVINNA have been in San Francisco and points north (as far as Seattle) during the past month, making incidental and background scenes for the Mervyn Le Roy M.G.M. production, "Tugboat Annie," starring Marie Dressler. Jackson Rose and Cooper Smith are also on the photographic staff of this production and Cecil Wright and Sam Cohen are handling the assistant jobs.

JAMES VAN TREES has at last stepped out of the Warner ranks on a loan to M.G.M., where he is photographing the William Wellman production, "Midnight Lady." Jimmy is seconded by his regular shadow, Lou Jennings, and assisted by Tom Dowling.

## PARAMOUNT

Past month has been very slow at this studio with the result that tennis, motor boating and golf have claimed the attention of ERNIE HALLER, HENRY SHARP, VIC MILNER, DAVE ABEL, MILTON KRASNER, ARTHUR MARTINELLI and ARCHIE STOUT.

LEO TOVER continues in production on "College Humor," the big musical which is being directed by Wesley Ruggles. Guy Bennett is operating the cameras, and Tommy Morris efficiently handling the assistant spot.

CHARLIE LANG is off on another new production, "Gambling Ship," under the direction of Lucien Gasnier. Bob Pittack is the second cameraman and Cliff (Dapper Dan) Shipser, assistant.

THE BROTHERS JENNINGS (GORDON AND DEV) are counting on some startling photographic results through the high speed cameras for the Gasnier production.

FARCIOT EDOUARD and his associates, Dewey Wrigley, Loyal Griggs and Al Myers, are justifiably proud of their combined achievements in the Paramount productions, "The Eagle and the Hawk," "International House," "College Humor" and "Gambling Ship."

## FORTY, LOVE

JACK GUERIN, the always genial superintendent of Consolidated Lab., had a birthday the other day and Mrs. Guerin pulled a unique surprise party on him. She invited exactly 20 couples to be present at their home to yell "SURPRISE!" Many more happy birthdays, Jack.

## EASTMAN SUPER

## Sky Shooting Cinematographer Provides

We've stood firmly on the set or location with practically every man who carries a card of 659. We've thrilled and chilled and laughed and—well—we've choked up a bit while some of the intense dramatic scenes were being recorded on Eastman Super-sensitive Panchromatic negative. We love the business or we wouldn't be in it. We're always and under all conditions and circumstances a part of it and we respond to a rib-tickling situation and a tear-jerker alike—but we have never clicked so deeply as we did at those thrilling seconds of tense air drama in "Hell's Angels."

Dozens of Air pictures have been produced. Most of them great. We've given a lot of thought (and respect) to the cameramen who have been responsible for the photography—as a shining example, we present—

Elmer Dyer

An unusual photographer—an unusual man—

Dyer brought to Hollywood the motion pictures of Carlsbad Caverns. These pictures were made hundreds of feet in the earth and marked Dyer's first experience with Eastman Super-sensitive Negative. Since that time he has exposed more than a million feet of this same great film among the clouds.

His talks and lectures before technical groups are always largely at-

## THANKS, GOODFRIEND

A letter reaches us from PLINY GOODFRIEND, who is en route on a special expedition to Central America. The letter comes from New York.

"We expect to leave Easter Sunday and I will soon be exposing Eastman Grayback at the rate of speed which it deserves. If you are ever fortunate enough to see our picture you will probably find out what a really great latitude your new film has.

"Probably no cameraman who has ever shot this fine negative has made it suffer the indignities that I will put it through. I can't blame the camera equipment if anything goes haywire because I have a Mitchell, an Akeley and a new motor driven Eyemo. Of course the cameras and myself are infallible, so you see it is strictly up to the film. Also I must admit that laboratories seldom go haywire, so I'm putting the whole thing right in your lap.

"The film will not only have to stand hot and cold temperatures, but hot and cold exposures, and I think everything will come out all right and we should bring back a wow of a picture.

"Best regards to the gang. Sincerely, Pliny."

tended and he never overlooked opportunity to give generous credit to film medium of achievement.

Dyer has just completed a flight to Salt Lake City and Denver.



he "spotted" locations for his M.G.M. assignment, "Night of the Living Dead," which is being directed by George Brown.

In the accompanying picture Dyer dressed like Santa Claus in brother—woolens—chamois and leathers—but even with this holiday holstery he declares that the cuts through at altitudes above thousand feet. Certainly, the doesn't afford the same degree of freedom as that affected by the bicyclists of Beverly Hills in the dress vogue.

Note the position of the camera

Please mention The International



# BULLETIN

EASTMAN  
FILMS

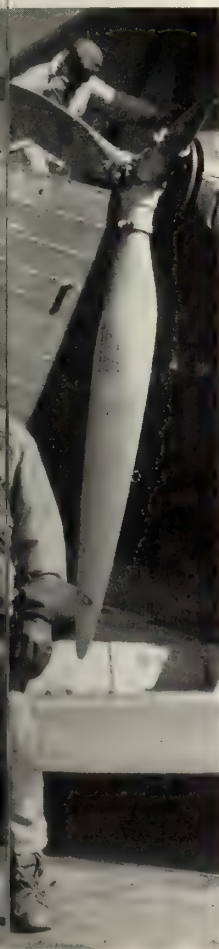
ins, in Cooperation with The International Photographer

WHO'S WHO!

## HITS NEW HIGH

### and Chills for Industry and Himself

left corner of the picture. This camera Dyer takes his most of the time tolerates "air wash" rated at about and twenty miles per hour.



himself treading air—grasping for support and his camera at the same time—and—he might connect!

Asked his greatest difficulty while actually shooting in the air, Dyer said:

"See that camera up there—just study its position—assume that you've got your flying legs and your flying eyes and everything's okay—but—even up here the film does run out—more often, in fact, than on the good old ground because we can't take a chance on missing a shot and the motor runs almost constantly while we're in flight adjacent our 'objective plane.'

"Well—now to change magazines—she clicks on and you open the camera and start to thread up. We're ten thousand feet up—cruising along at about a 'yard' (hundred miles per hours) and that old propeller is shooting an air-wash smack into the old box. Well, just try to control those loops. Oh, boy! This is one time I wish Eastman film were less pliable—but—finally with shielding the old box with the body and making the fingers do the right thing at the right second, we're all set and we shut 'er up and turn 'er over and—there goes another roll of Super."

Dyer has about as much "air time" to his credit as the average mail pilot. He has had but one serious forced landing—but he's still here and he's ten thousand feet above us as this is being written—turning it out on "Night Flight!"

### SIEGLER COMPLETES

Al Siegler has turned in the tag scenes on "Dark Waters" at Western Service Sound Studios for Maxwell Cohn. This is a special for release in Canada. Assisting Siegler were Mike Walsh and Jim Goss.

### COLUMBIA

JOE AUGUST has completed the Victor Schertsing feature, "Cocktail Hour," with Bebe Daniels. Henry Freulich was the second man and Marcel Grand and Bob Tobey the assistants.

BENNY KLINE is shooting an action picture under the direction of Lambert Hillier and starring Chick Sale under the title, "Full Speed Ahead." F. M. Brown operates the camera. Fred Dawson and Jack Russell are the assistants.

TEDDY TETZLAFF has completed "Rules for Wives," which was directed by Eddie Buzzell. Ted had Andre Barlatier as second and Jack Anderson and Al Keller as assistants.

JOE WALKER is standing by for starting call on his next assignment, which is due any minute.

### WARNER BROS. - FIRST NATIONAL

Busy Burbank plant has at last reached the long-promised period of vacation which indicates that even Fred Gage and Pete Steele may be in a position to give some serious thought to the first Bobbly Jones series, "How to Break a Hundred."

TONY GAUDIO cranked up the Cadillac and headed for Texas.

GEORGE BARNES, accompanied by Mrs. Barnes (Joan Blondell) also goes for the auto tour thing, heading for New York City by way of New Orleans.

ARTHUR TODD is planting flowers and killing snails on his Westwood estate when he is not making 16 M.M. shots of his young son.

SID HICKOX is trying to muscle in on Gage and Steele on the screen study of Bobby Jones.

CHICK MCGILL is another of the clan to hit the highway by auto, although another studio this week has sent out an S. O. S. calling him back to Hollywood.

SOL POLITO is taking a busman's holiday and doing some serious work with his Graflex.

JIMMY VAN TREES listened to Bill Wellman and went along over to M.G.M. for one production, after which he will spend his time at his ranch along the Sespe until production is resumed at Burbank.

FRED JACKMAN has blossomed out in a new yacht and has promised an early week-end trip to all of his friends, who have turned the invitation down flat when Fred said: "No mermaids."

### BRYAN FOY STUDIOS

During the past month Joe Valentine completed his fifth feature production, "Shall We Tell Our Children," for Bryan Foy Productions. Willard Mack directed and acted in the story, and found out the children knew more than he did. Valentine was assisted by Walter Rankin.

### TIFFANY

ARTHUR EDESON had to leave that charming Lake Malibu Lake cabin and start a feature for Sam Bischoff at Tiffany. "The Big Brain" is the title of the picture. George Archainbaud is directing. Harry Davis is operating the camera. Swede Larson and Bert Eason are assisting.

EDDIE TIFFANY, who has been at this studio for a long time, looking after the mechanical ends of the cameras, etc., has been placed in charge of the camera department, and we add our good wishes to him, too.

### IT'S A GIRL

HENRY GOLDFARB, executive assistant to Michael Leshing, Fox West Coast Laboratory, is handing out the cigars and pulling a Pepsi smile while he tells the boys, "It's a girl." The newcomer is Number One in the Goldfarb household. (Take that any way you like.)

### RKO

EDDIE CRONJAGER, having finished with paint brushes, rakes, hoes and what-have-you at his Malibu Beach home, is back at the Radio plant photographing "Careless," which is being directed by William Seiter. Bob De Grasse is taking good care of the second cameraman's duties, with George Diskant ditto with assistant.

ROY HUNT finished "Emergency Call" and was given the big slap-on-the-back by the studio bosses for the splendid job on his photography. Second cameraman was Eddie Pyle, and Jimmy Daly, assistant.

EDDIE LINDEN, chief cameraman on "King Kong" for Ernest Schoedsack, is again selected by Mr. Schoedsack for photographic responsibility on "Jamboree." Camera staff is at Catalina on exteriors at this time. Second men are Eddie Henderson and Eddie Pyle, with assistants, Bill Rhienhold and Jimmy Daly.

NICK MUSURACA is photographing an air feature entitled, "Flying Circus," which is being directed by Russell Birdwell. Harry Wild handles the cameras and Bill Clothier keeps busy assisting.

CHARLIE ROSHER is photographing his favorite star, Constance Bennett, in "A Bed of Roses." Gregory La Cava is directing; Frank Redman is second cameraman and Jack Cooney, assistant.

HENRY CRONJAGER was selected by Richard Dix as chief cameraman for the current Richard Dix production, "The Ad Man." It has been some time since Henry has handled a production in the Big League and we unite with all his good friends in wishing him top success. Henry selected for his second Joe Biroc and as assistant Willard Barth.

BERT GLENNON finished "Melody Cruise" and after a few days' rest, started another one entitled, "Morning Glory," which sports a distinguished cast, including Katherine Hepburn, Douglas Fairbanks, Jr. and Adolphe Menjou. Lowell Sherman is directing. Russ Metty (the aviator) is handling the camera, with the able assistance of Charley Burke.

JACK MACKENZIE photographed a Brock comedy under the direction of Harry Sweet, "She Done Him Right." Fred Bentley and Joe Biroc were the seconds and Bill Clothier and Harold Wellman, assistants.

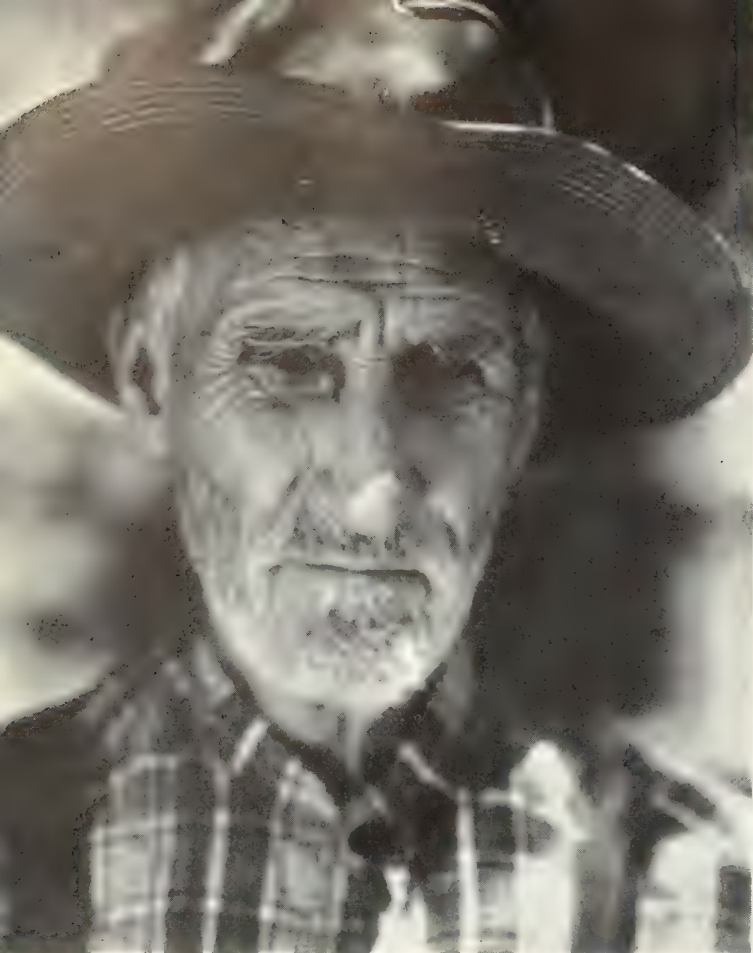
J. O. TAYLOR is locked away in seclusion, making special secret animation sequence for "Jamboree," and is being ably assisted by Clarence Slifer.

VERNE WALKER and his associates, Lynn Dunn, Cecil Love and Cliff Stine, are working on some most unusual trick prismatic effects in "Melody Cruise."

### FAXON FINISHES

FAXON DEAN has completed another Western for Trem Carr (Monogram) with Bob Steele, which carries the tag, "Gallant Fool." Picture was directed by Bradbury, with Guy Newhard assisting Dean.





*This companion picture to the Ozark hill-billie youngster on the adjoining page is of a rare specimen from the upper reaches of the beautiful White River of Arkansas. From the Blue Ridge to the far-flung breaks of the Ozark uplift there is none to equal him. Mr. Jack Fuqua is also responsible for bringing this to the light of day.*

## SONG OF THE EAGLE

HENRY SHARPE

● Paramount studio. A Charles R. Rogers production written by K. C. Robinson and Willard Mack; director, Ralph Murphy; assistant, Tommy Atkins; art director, David Garber; first cameraman, Henry Sharpe; operative cameraman, Fred Mayer; assistants, Lloyd Ahern and John Eckhardt; recording engineers, V. E. Vernon and E. G. Wisdom; assistant, G. B. Rayburn; stills, Elwood Bredell; film editor, Joseph Kane; assistants, Lynn Harrison and John Link; chief electrician, Al Holton; chief grip, Irving Newmeyer; chief props, William Carr.

## I LOVE THAT MAN

MILT R. KRASNER

● Paramount Studio. A Charles R. Rogers production written by Gene Towne, Casey Robinson and Graham Baker; director, Harry Joe Brown; assistant director, Raoul Pagel; art director, David Garber; first cameraman, Milt R. Krasner; operative cameraman, Harry Hallenberger; assistants, Irving Glassberg and Leo Hughes; stills, Elwood Bredell and Adolph Schafer; recording engineer, Philip Wisdom; assistant, James Miller; film editor, Joseph Kane, assistant, H. Pagel; chief electrician, Roy Roberts, chief grip, Walter McCloud; chief props, Charles McCormick, assistant, Earl Swan.

# MEN WHO M

By

HELEN BOYCE

THI

## CAPTURED

BARNEY MCGILL

● Warner Bros. First National Studio. Written by Edward Chodorov; director, Roy Del Ruth; assistant director, Frank Shaw; first cameraman, Barney McGill; recording engineer, Dolph Thomas; film editor, William Holmes; chief electrician, Larry Kennedy; chief props, Lloyd Edwards.

Cast includes Leslie Howard, Douglas Fairbanks, Jr., Paul Lucas, Margaret Lindsay and Robert Barrat.

## CARELESS

EDWARD CRONJAGER

● R-K-O Studio—shooting. Scenarist, Maurine Watkins; director, William Seiter; assistant director, J. D. Starkey; first cameraman, Ed. Cronjager; operative cameraman, Robert DeGrasse, assistant, George Diskant; stills, Alexander Kahle; recording engineer, Clem Portman; chief electrician, G. F. Gilman; chief grip, Jimmie Kirley; props, Kenny Holmes; film editor, Jimmie Morley; assistant, Lloyd Young.

## FLYING CIRCUS

NICK MUSURACA

● R-K-O Studio—shooting. Scenarists, Morgan-Stevens; director, Russell Birdwell; assistant, Wally Fox; first cameraman, Nick Musuraca; operative cameraman, Harry Wild; assistants, Willard Barth and William Clothier; stills, Fred Hendrickson and Oliver Sigurdson; recording engineer, Denzil Cutler; chief electrician, Frank Uecker; chief grip, Louis Anderson; props, George McGonigle; film editor, A. Roberts; assistant, J. Noreiga.

## VOLTAIRE

TONY GAUDIO

● Warner Bros. First National Studio. Written by Paul Green and Maude T. Howell; director, John Adolph, assistant director, Ben Silvey; art director, Anton Grot; first cameraman, Tony Gaudio; operative cameraman, Al Greene; assistant, Carl Guthrie; stills, George Baxter; recording engineer, David Forrester; film editor, Owen Marks; chief electrician, Charles Alexander; chief grip, Glenn Harris, chief props, Martin Hershey.

Cast includes George Arliss, Doris Kenyon, Margaret Lindsay and Alan Mowbray.

## HOLD ME TIGHT

ARTHUR MILLER

● Fox Studio—shooting. Scenarist, Gladys Lehman; director, David Butler; assistant, Ed. Schaumer; first cameraman, Arthur Miller; operative cameraman, Joe La Shelle; assistants, L. Abbott and Alfred Lebovitz; stills, Ray Nolan; sound, G. Leverett; chief electrician, C. McGowan; chief grip, Frank Pierson; film editor, Irene Morra.



# KE MOVIES MOVE

## FULL SPEED AHEAD BEN KLINE

● Columbia Studio—shooting. Scenarists, Levinson-McCoy; director, Lambelt Hillyer; assistants, McGough-Hicks; first cameraman, Ben Kline; operative cameraman, F. M. Browne; assistants, Fred Dawson and Jack Russell; stills, Emmett Schoenbaum; recording engineer, Ernie Brands; chief electrician, George Hager; chief grip, A. Becker; props, Charles Granucci; film editor, G. Havlick.

## COCKTAIL HOUR JOE AUGUST

● Columbia Studio—shooting. Scenarist, J. K. McGuinness; director, V. Schertzinger; assistant, C. C. Coleman; first cameraman, Joe August; operative cameraman, Henry Freulich; assistants, Marcel Grand and Robert Tobey; stills, Wm. Fraker; sound, George Cooper; chief electrician, Jimmie Gunter; chief grip, Eddie Blaisdell; props, George Raigin; film editor, Jack Dennis.

## PHANTOM OF THE AIR JOHN HICKSON

● Universal Studio—shooting. Scenarist, Plymton Dickey; director, Ray Taylor; assistant, Norman Lacey; art director, Tommy O'Neal; cameramen, John Hickson, Wm. Sickner, J. D. Weiler, Carl Meister, Charles Crane; cameramen on air sequences, Leonard T. Galezio and Paul Hill; stills, Harry Osborne; recording engineer, C. Carroll; chief electrician, Tommy Valdez; chief grip, L. Smith; props, Danny Smith; film editors Edward Todd and Alvin Todd.

## MY LIPS BETRAY LEE GARMES

● Fox Studio. Play by Attila De Orbok, screen play by Hans Kraly and Jane Storm; director, John Blystone; first cameraman, Lee Garmes; operative cameraman, Warner Lynch, John Schmitz; Jack Fiendel; assistants, Warren Cruse and H. C. Smith; stills, Anthony Ugrin; recording engineer, W. W. Lindsay, Jr.; film editor, Alex. Troffey; assistant, Moe Kauffman; chief electrician, Charles Henryson; chief grip, Fred Richter; chief props, Duke Abrahms.

## 42ND STREET SOL POLITO

● A Warner Bros. First National production. Based on a novel by Bradford Ropes; screen play by Rian James and James Seymour; director, Lloyd Bacon; assistant director, E. Hollingshead; first cameraman, Sol Polito; operative cameraman, Michael Joyce, assistant, Speed Mitchell; stills, Scottie Welborn, Buddy Longworth and George Baxter; sound, Dolph Thomas; film editor, Thomas Pratt; chief electrician, George Whittemore; chief grip, Harold Noyes.

Featuring Warner Baxter and Bebe Daniels.



*This masterpiece of the Ozarks is from the camera of Mr. Jack Fuqua. Tom Sawyer and Huckleberry Finn rolled into one never had anything on this ten-year-old kid, according to Mr. Fuqua. He was a perfect actor and was bossing the other native actors around before he had been on the job two days.*

## JAMBOREE EDDIE LINDEN

● R-K-O Studio—shooting. Scenarist, Ruth Rose; director, E. A. Schoedesack; assistant director, Ivan Thomas; first cameraman, Eddie Linden; operative cameramen, Eddie Pyle and Edward Henderson; assistants, Bill Wm. Rheinhold and James Daly; stills, Gaston Longet; recording engineer, Earl A. Wolcott; chief electrician, S. H. Barton; grip, Tom Clement; assistant, Pete Bernard; props, Gene Rossi; film editor, Ted Cheesman; assistant, H. Berman.

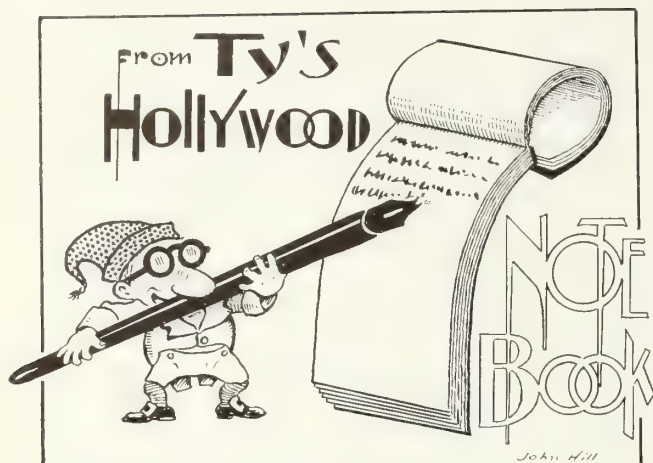
## POWER AND THE GLORY JAMES HOWE

● Fox Studio—shooting. Scenarist, Preston Sturges; director, Wm. K. Howard; assistant, Horace Haugh; first cameraman, James Howe; operative cameraman, Sid Wagner; assistants, Paul Lockwood and Harry Webb; stills, Eugene Kornman; sound, A. W. Protzman; chief electrician, Tom Oullette; chief grip, George Carpenter; film editor, Paul Weatherwax.

## BREED OF THE BORDER FAXON DEAN

● Trem Carr Studio. A Paul Malvern production, written and directed by Robert Bradbury; assistant director, Harry Jones; art director, E. R. Hickson; first cameraman, Faxon Dean; assistant, Guy Newhardt; stills, Joe Walters; recording engineer, John Stransky, Jr.; assistant, Jerry Roberts; film editor, Carl Pierson; chief electrician, Tex Cox; grip, Bill Smith, cast, Bob Steele.





Hollywood, while most sophisticated in a 2 by 4 manner is still quite lovable. It is a citified metropolis with an overall atmosphere of a provincial corn-belt town. The men in trying to be different and the women with their beautiful though impractical looking bodies, as well as the other sublime and bizarre details, create a confusion in the aloof observer; however, it all blends to make the picture on the screen. And it is tolerated when it is understood that people the world over pay money to see these things on the screen.

Even so, the motion picture needs less of lipstick and monocles, and more of "Hi, Si!" with the big grin.

Did you know that practically everyone in Hollywood keeps a personal scrap book? That's dandy; since they keep money in circulation. Not alone do the books cost money, but the articles pasted in the books usually cost someone quite a fortune.

There are about 20,000 newcomers interviewed by Fred Datig, Paramount Casting Director, each year. These people, all sizes and shapes, come to the film capital in an effort to "crash pictures." Of this 20,000, there are only 800 registered as showing promise, and the other 19,200 are turned away. And of this 800, 200 can not be found by the time a day's work is offered. The 600 who do finally get work are permitted to join the already 17,000 that are registered in the studio files. Even though several hundred jobs are offered each day, this vast number averages less than one day's work in a month. And no important "discoveries" have been made from the extra ranks. This is a picture that is duplicated in all the studios, so you had better stay home and dig your potatoes before the frost comes.

Resolved that, all "extras" are "Props" but not all "props" are "Extras." This was the subject matter once of a lively dispute between a couple of old-timers around their General Store stove in Iowa. Neither knew the difference, and both liked to argue. That was ten years ago and they haven't spoken since.

The first picture to use the new legal beer subsequent to midnight April 6, was the Paramount version of Theodore Dreiser's "Jennie Gerhardt." Upon investigation, it was found that near beer could not be found, so the beer garden scenes in this picture had to be delayed until real beer could be had.

Ted Cook, the champion of the motion picture, who has ever and anon defended the industry against the hypercritical intelligentsia and other bigots, feels that the industry is letting him down. He, and others, wonder if it's necessary for producers to portray fiendishness and unnecessary cruelty on the screen. Such things incite the inherent human barbarity that one sees so often in eight year old children when at play.

Ted Cook is distinguished by his tuft of 53 gray hairs that are directly above his forehead in his otherwise dark head of hair and by his knowledge of the difference between sense and nonsense.

Did you know that often the beautiful scenes on the screen are the results of paintings by artists who transfer their pictorial ideal to a sheet of glass? This is a studio process that few of the laymen know about. It consists of a picture painted on glass with part of the glass remaining clear through which part of the set is seen while undesirable portions are masked out by the painting. The camera photographs both the painting and the picture through the clear portion in a truly beautiful effect.

The foreground portion of a glass shot. The darkened portion is masked according to the required lines before shooting.



The completed glass shot. A comparison of the two photos shows the portion that was added by means of a painting on glass.



In downtown Los Angeles, on the evening after this beer arrived, this golden fluid set aflow human kindness. People were children again. They pressed their noses against plate glass windows in an effort to watch the customers inside, drinking. And when my turn came to get inside, the gaiety was punctuated with "Gesundheit" and "Scholl," or something like that. Everyone is humming German folk tunes. And in the morning they will go to work—without feeling the need of size twelve hats. Hoo-ray!

N. B.—Ty wants his readers to know that he will gladly answer any questions propounded by them—that is if they are asked in good faith and stick closely to motion pictures and people of the cinema.

In seeing the Warner picture, "42nd Street," the other night there were no courtesies extended; all had to stand in the unusually long lines of hopeful patrons and wait. One fellow had waited so long that he took his shoes off and carried them in his hands. He presented a comic appearance with his overcoat on and a muffler around his neck, carrying his shoes. And to complete the picture his hat was askew. Yes, that was before beer came in!

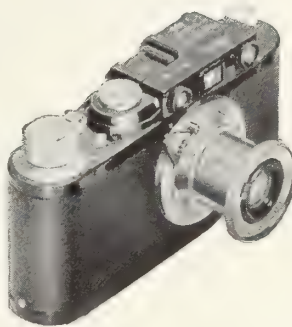
Harry Reynolds, probably, made one of the most complete miniatures ever made for pictures when he fabricated the Vincent Lopez orchestra and ballroom containing thirty dancing couples. While the miniature orchestra players each manipulated an instrument, the thirty couples danced a waltz, each couple doing the waltz steps independently of the other couples. The ballroom was 18 by 8 feet. This was used in the recent Paramount "Big Broadcast." Imagine the patience and mechanical skill required to do this, and the effect was so complete that it seemed Mr. Reynolds even instilled the element of romance into the scene, that is in all ballrooms.

The Dunning Process shots are coming back stronger than ever. It seems the projection shot has been tried and found limited in possibilities. In the Joan Crawford picture, "Today We Live," which is being made at M-G-M, there are forty-one Dunning shots. In this studio alone, Dunning has worked on five different pictures. Photographic quality is the feature that will bring this process back into the wide use it enjoyed a few years ago.

*Remember—when speed photography was unknown to amateurs—and many professionals?*

*—When night photography was limited to posed flashlight pictures?*

*—When precision lenses were seen only in the laboratories of scientists?*



*—When telephoto lenses were available only to a few?*

*—When a camera fan, to be "up-to-date", needed a wagon-load of expensive equipment?*

*—The LEICA Camera has made these all things of the past!*

## How LEICA Has Created a New Era in Photography

LEICA Photography differs from old-fashioned photographic conceptions as much as the modern automobile differs from the horse and buggy. The LEICA Camera offers more picture-taking convenience, speed, accuracy, and versatility than has ever before been thought possible. It has blazed many trails, broken many precedents. It was the first precision camera to be built small enough and light enough to carry in the pocket. It was the first precision camera to simplify all controls for greater speed and certainty of operation. It was the first precision camera to adapt lenses of microscope quality to photography. It was the first pocket precision camera designed with interchangeable lenses, including telephoto and wide angle lenses, and high speed lenses for indoor and night photography. It was the first pocket camera with a built-in range finder coupled with lenses, giving correct focus instantly, without guesswork. It was the first pocket camera equipped with a focal-plane shutter of standard *cloth construction*, eliminating danger of internal reflections at high speeds. It was the first "still" camera to use cinema film, giving the photographer the advantage of the very latest refinements in cinema film manufacture. And the makers of the LEICA Camera were the first to offer a



complete line of accessories and attachments (now over 300!) thus opening the entire field of modern photographic art to every LEICA owner at a great saving in cost.

*The LEICA Camera takes up to 36 pictures on a single roll of film. Sharp negatives, giving perfect enlargements up to 12x18 inches. Shutter speeds 1/20th to 1/500th seconds including time exposures.*

### A New and Broader Conception of Service, Too

The LEICA purchaser receives a 2 year guarantee certificate with camera. "LEICA PHOTOGRAPHY" an interesting illustrated monthly bulletin is sent free to every LEICA owner. LEICA Camera-Clubs now organized in many cities throughout the country helps the LEICA owner to get the most out of his camera. Lectures and demonstrations by leading experts are given before these clubs.

Price of the MODEL D LEICA, with 50 mm. ELMAR f:3.5 lens, \$92.50. Write for Free Illustrated Booklet—"Why Leica?"—also new booklet describing the new STANDARD LEICA, at \$66.00.

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60 East 10th Street

**Dept. 292**  
New York

# EDDIE LINDEN

CHIEF CINEMATOGRAPHER

# KING KONG



(Continued from Page 17)

imagine scenery from hints given in the dialogue; hence it was advisable to portray as few scenes as possible. These limitations are the major reason for that unity which gives Greek tragedy its admirable concentration. And for the same reason today, the motion picture due to the expeditious mechanical methods and picturized technique has a tendency to dilute the play, or to go into story by-paths in an ornate spectacle.

In these early plays, the subject matter was fixed by the religious nature of the drama. The early ceremoniel dances were designed to further religious purposes. And since death is so prominent a part of all religions, and since it is such an impressive portion of the cycle of reproduction, it naturally became fixed by religion as the major type of drama.



A series of different masks used over the faces of the actors in the tragic days of ancient Greece.

Comedy, too, which came later, also sprang from religion. The Festivals of Dionysus, who was the god of the Theater, as well as of wine and reproduction, was the forerunner of the comedy play. Copious drinking at his ceremonies led to high spirits and jesting. Thus, due to the attendant ritual, this naturally led to a comedy ceremony, while the more serious aspect of worship was growing into tragedy.

Aristophanes, who lived about 450 to 380 B. C., was the first to gain fame as a comic writer. He made use of the chorus, and his actors wore masks, but these masks depicted laughter rather than the grief of tragedy. Walterhouse states it admirably when he says: "*Aristophanes mingled harsh satire and coarse burlesque with poetry as delicate as Shelley's—a mixture fitting for the worship of the wine god.*" Having come into conflict with the authorities because he criticised in time of war, he came to use the religious motive as a defense. The characters in the plays he wrote after, approximately, 400 B. C., are gods, whose very human statements none could censure. It is of interest to note that "*Lysistrata*," written by Aristophanes, was severely criticised when recently reproduced.

Comedy continued to develop long after the tragic form became fixed. Between 320 and 250 B. C., what is called the "New Comedy" came into being. In this the traditional religious influence was shaken off. The chorus disappeared, and the actors increased in number. The treatment of the subject—the daily life of the middle class—was as modern as that of contemporary Broadway. The chief writer of the New Comedy was Menander.

High salaries, as well as temperament, existed as the mode for actors even in Greece. Actors' personalities, upon which they must commercialize, has changed little with the passage of time. In Greece, acting was an hon-

ored profession, and its members were prominent citizens. They enjoyed special privileges, such as military exemption during wars; they could travel without passports; and they could not be arrested for ordinary crimes. Many of these privileges were brought about by the union-alliance, known as "The Artists of Dionysus," which was formed by the actors for the purpose of protecting their rights and to procure higher salaries.

From the time of Andronicus, who wrote in the third century B. C., Roman drama consisted of translations of the Greek. Plautus (254?-184 B. C.) and Terrence (190-159 B. C.) excelled in the translation of the New Comedy for the Roman theater. Plautus, in particular, in his translations added a local Roman color.

The theatrical conditions of Rome were similar to those of Greece. A curtain was used, however, and there was some scenery, which usually represented three house fronts. Until after the time of Terence, actors wore masks, at which time they were replaced with make-up and a conventional costume that eliminated the paddings and buskins of the majestic tragedy actor.

Despite the competition of such spectacles as the gladiatorial combats and despite the edicts of the early Christian church, drama persisted until 313 A. D. Then the art which sprang from one religion was ended by another. Constantine's imperial license to the Christian religion made acting both unprofitable and a dangerous vocation. The dramatic forms which had their origin in early Greece disappeared until after the Renaissance.

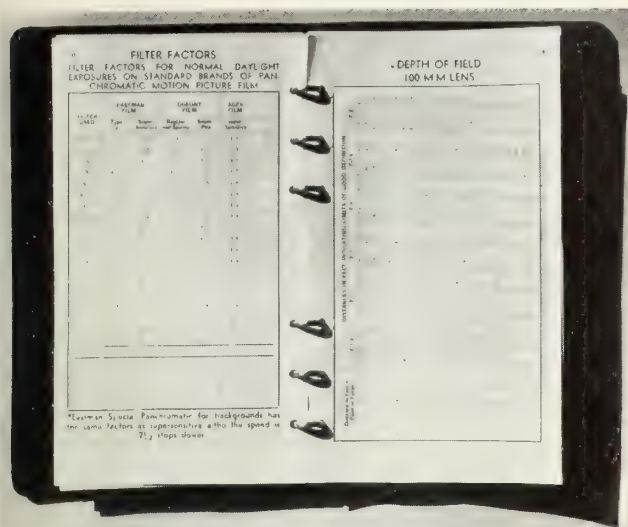
What more is the motion picture than an outgrowth of these early dramatic forms? All the arts have undergone a slow change, probably the least changed is the drama. It is true that due to mechanical devices, the motion pictures are largely presented in a different manner; but the audience experiences emotions that are parallel to those of the early audience in the tent.

Probably, the greater change in the technique of other arts is due to external conditions that have lulled the human imaginative forces. The artist on canvas, the sculptor in marble, and the architect all bring their object to a cold pause. They portray life in a frozen moment; and their success in their medium is qualified by the imagination inspired in their public. Drama, particularly the motion picture form, is a personal thing with each member of the audience, and their imagination has as a relief, an added interest due to the lack of abstractions, that are in other arts. These abstractions do not encourage the imitativeness, hence the personal interest, to the same degree as is encouraged by the dramatic art in its grasp on the individual during the transcending, pyramid-like sequences. Due to this influence, a good actor serves humanity with, perhaps, more force than a priest of God; speaking to the common people in the international language of the common people.

Motion pictures, as a dramatic art, are not all they should be, but visualize for a moment another Shakespeare behind a studio spot-light choosing the action. And the cameras busily recording it. They are an art when humanity is lighted. Perhaps out of the mass of pictures made, some few will live just as some few pieces of literature survive.

[Appreciation is extended to George T. Walterhouse for collaboration in preparation of this article.—*Editor's Note.*]





This is the second installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westenberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's BOOK of TABLES

**By FRED WESTERBERG**

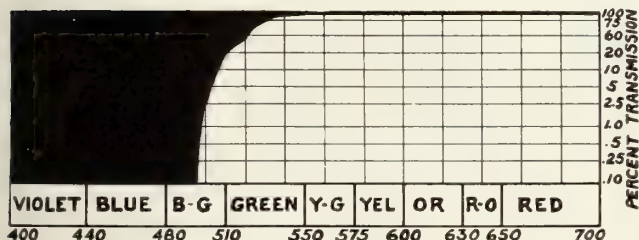
There are seven more installments to come, concluding with the November issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 31; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 31 and 32. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index.

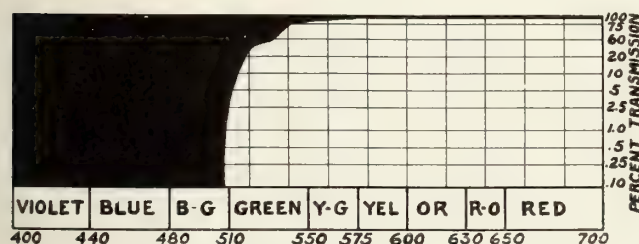
The accompanying cut is of a Lefax cover. It may be purchased from dealers at 75 cents.

## FILTER TRANSMISSION GRAPHS

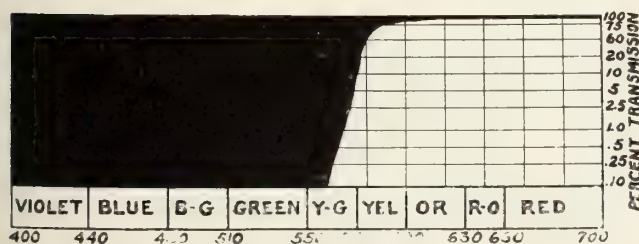
## Wratten Light Filters



No. 12. Minus Blue



No. 15. G



No. 23A. E Red (light)

Data by Eastman Kodak Co. Wratten Filters. 1932 Edition.

## F-VALUES

### RELATIVE BRIGHTNESS OF IMAGE OBTAINED AT VARIOUS APERTURES

Relative Brightness of Image	F Value	Relative Brightness of Image	F Value	Relative Brightness of Image	F Value
1	16.00	20	3.58	54	2.18
1.5	13.06	21	3.49	55	2.16
2	11.31	22	3.41	56	2.14
2.5	10.12	23	3.34	57	2.12
3	9.24	24	3.26	58	2.10
3.5	8.55	25	3.20	59	2.08
4	8.00	26	3.14	60	2.07
4.5	7.54	27	3.08	61	2.05
5	7.15	28	3.02	62	2.03
5.5	6.82	29	2.97	63	2.02
6	6.53	30	2.92	64	2.00
6.5	6.27	31	2.87	66	1.97
7	6.05	32	2.83	68	1.94
7.5	5.84	33	2.79	70	1.91
8	5.66	34	2.74	72	1.89
8.5	5.48	35	2.71	74	1.86
9	5.34	36	2.67	76	1.84
9.5	5.18	37	2.63	78	1.81
10	5.06	38	2.60	80	1.79
10.5	4.94	39	2.56	82	1.77
11	4.82	40	2.53	84	1.75
11.5	4.72	41	2.50	86	1.73
12	4.62	42	2.47	88	1.71
12.5	4.52	43	2.44	90	1.69
13	4.44	44	2.41	92	1.67
13.5	4.35	45	2.38	94	1.65
14	4.28	46	2.36	96	1.63
14.5	4.20	47	2.33	98	1.62
15	4.13	48	2.31	100	1.60
15.5	4.06	49	2.29	110	1.53
16	4.00	50	2.26	120	1.46
17	3.88	51	2.24	128	1.41
18	3.77	52	2.22	200	1.16
19	3.67	53	2.20	256	1.00



“LOYALTY—PROGRESS—ART”

John Arnold, recently elected president, and other officers of the American Society of Cinematographers were installed at a dinner and ceremonies held in the Bel-Air Country Club Monday night, April 17.

The event celebrated Mr. Arnold's third election to the presidency of the A. S. C., a well merited honor to a popular man and an efficient cinematographer, to whom THE INTERNATIONAL PHOTOGRAPHER extends congratulations and best wishes for a successful administration. This includes the able officers elected with him.

E. O. Blackburn, of J. E. Brulatour, Inc., was host and as a novelty event, Fred Jackman furnished the theme music of the evening.

Besides Mr. Arnold, those installed were: Victor Milner, Charles Clarke and Elmer Dyer, vice presidents; George Schneideman, treasurer, and William Stull, secretary.

John Arnold for many years has been chief of the camera department of M-G-M and is one of the pioneer cameramen of the motion picture industry.

## DEBRIE SUPER PARVO

[The following telegram explains itself. This publication has heard much favorable expert comment on the Debie Super Parvo, particularly from American cameramen returning from Europe.—Editor's Note.]

Editor, International Photographer,  
1605 North Cahuenga Ave.,  
Hollywood, California.

April 19, 1933.

Among the newly developed motion picture apparatus to be exhibited at the forthcoming meeting of the Society of Motion Picture engineers at the Hotel Pennsylvania next week will be the Andre Debrie Super Parvo Camera, one of which has just arrived at the office of Andre Debrie, Inc., No. 115 West 45th St., New York City. The Debrie Super Parvo Camera although only slightly larger than the camera that was employed in the days of silent pictures, is absolutely sound proof and can be operated uncovered within three feet of a microphone. It eliminates the necessity of employing blimps, bungalows and other cumbersome coverings that are required in other types of cameras used in connection with the recording of sound motion pictures. Now in use in a number of European studios the Super Parvo is said to be giving complete satisfaction. Built-in motor, electric anti-buckling device and automatic stop at the conclusion of a dissolve are among the new features. Mounted on a newly designed friction-head type tripod the Super Parvo can be moved with ease to meet any requirements.

ANDRE DEBRIE, INC.,

115 West 45th St., New York City.

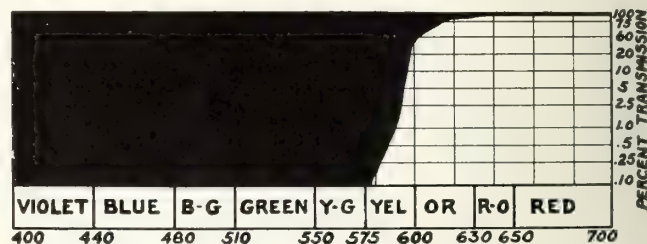
### F-VALUES

11

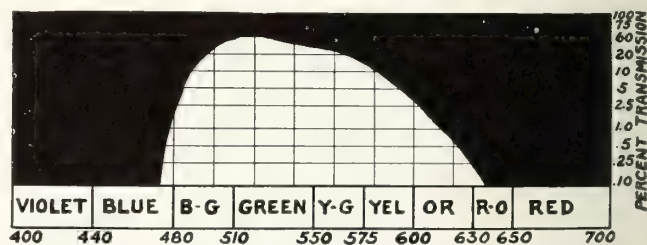
8

## FILTER TRANSMISSION GRAPHS

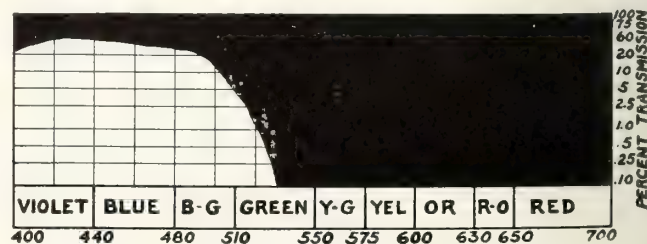
## Wratten Light Filters



No. 25. A Tricolor Red



No. 47. C5 Tricolor Blue



No. 58. B2 Tricolor Green

Data by Eastman Kodak Co. Wratten Filters. 1932 Edition.

## F - VALUES COMPENSATED FOR VARIOUS FILTER FACTORS

[illegible]



## THE FEARLESS CAMERA COMPANY WISH TO ANNOUNCE

The completion of a long series of development work on new equipment. This new equipment, the finest of its kind in the world, is now ready for marketing and is offered at the lowest price possible consistent with the highest grade workmanship and materials used in its fabrication. New equipment of various kinds will be announced each month as was the policy of the Fearless Camera Company in the past. This month the

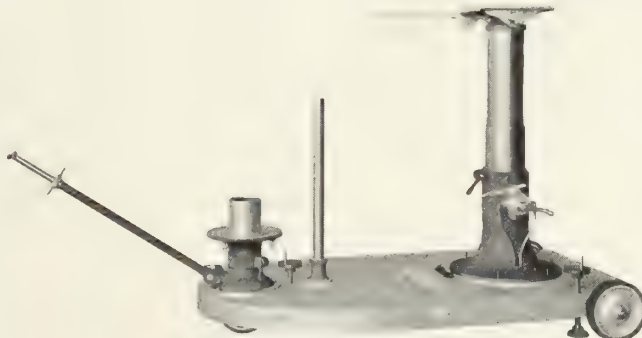
# Fearless Camera Company

## Announce

### THE FEARLESS SIMPLEX DOLLY

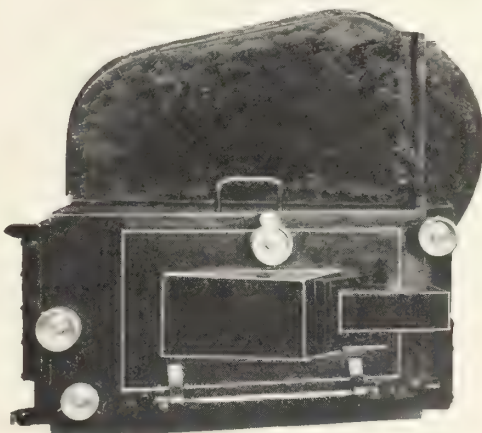
#### Features:

1. Built low with
2. A flat base mounted on
3. Ball-bearing wheels with
4. Ball-bearing steering wheel support that may be rotated through
5. 360° steering wheel rotation.
6. Base member is provided with lamp and mike carrying sockets.
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9. Lens positions—in blimp—ranging from 25" low position to 74" in high position.
10. Lens position when blimp is not used—22" to 71".
11. Elevating mechanism of noiseless hydraulic type.
12. Smooth acting, positive displacement, rotary hydraulic pump of simplified design.
13. Positive locks—with valve action—for smooth control as head is lowered.
14. Motor drive—as optional equipment.
15. Automatic Follow-Focus of simplified design furnished at extra cost.
16. Variable height High-Hat of new and unique design.



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4. Scientifically designed.
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6. Has built-in Follow-Focus of improved design.
7. Finder-Focus synchronized with Follow-Focus.
8. Felt lined.
9. Rubber camera support.
10. Camera leveling device built-in.
11. Interior of blimp can be illuminated.
12. Can be used on any standard heavy duty tripod head.
13. Highest quality workmanship.
14. Built from best quality material.
15. The cameraman's choice.

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# The CINE-KODAK Special

EASTMAN KODAK COMPANY Announces a  
Miracle in a 16mm. Motion Picture Camera



Bob Montgomery with his Ciné-Kodak

The Ciné-Kodak Special, a 16-millimeter motion picture camera that will "do everything" and then a few tricks more, has been announced by the Eastman Kodak Company.

The Ciné-Kodak Special will be introduced because of the Eastman Kodak Company's belief that 10 years of amateur cinematography have prepared the way for a 16-millimeter camera of maximum versatility. The appeal of the new camera will probably be to advanced amateur movie makers, to motion picture clubs, to engineers, to manufacturers, to doctors, to laboratory technicians—classes of cinematographers having use for 16-millimeter equipment with a professional camera's range of abilities.

Production arrangements provide that the Ciné-Kodak Special shall be precision-made by individual skilled labor. Fabrication of the camera will be entirely on a custom-made basis, which allows for modifications when any special requirements present themselves. Although the camera is in itself the most complete 16-millimeter instrument ever built commercially, the Ciné-Kodak Special will serve in many cases as the basic model for the even more elaborate custom-built motion picture camera which cinematographers may desire.

The basic model incorporates provisions for double or multiple exposures, dissolves, slow motion, fades, masking, interchangeable film chambers, variable speed, and framing and focusing through the main lens system of the camera. It has a variable shutter, a two-lens turret, and provision for either spring motor drive, hand cranking, or the attachment of an electric motor drive. In addition to these features of the basic model, additional equipment or alterations will on special order be applied to the camera in process of manufacture.

With the advent of the Ciné-Kodak Special, viewers of amateur motion picture film may no longer be sur-

prised to see one person appearing in several places at once on the screen, to see all the possible tricks of dissolving and fading and appearance from nowhere, to see Niagara Falls slowing down or speeding up at will instead of maintaining its accustomed rate of fall, to see a "long shot" dissolve into a close-up at a swing of the turret, to see all types of "animation," including the appearance of animated subjects in the same scenes with living subjects, to see scenes interestingly masked, to see a man's legs walk out from under him, to see many slow motion effects, to see—as the Ciné-Kodak Special can record it—large views of very small subjects that were only an inch or two from the camera.

Such pictures represent the Ciné-Kodak Special's trick possibilities. The same abilities, however, are applicable also when the camera is used in technology, in the analysis of athletic form, and in other "serious" ways.

How are these various tricks and refinements accomplished? The following catalog of the Ciné-Kodak Special's features will show. (Again it should be mentioned that these features are those of the basic model, exclusive of any that may be built in to any movie maker's special order.)

1. Fades are made possible by the camera's variable shutter. This shutter may be adjusted to full opening, one-half, or one-quarter, or closed. The ability to effect these changes while the camera is running makes fades, in or out, possible.

2. Lap dissolves (the overlapping of two fades) are made possible by use of the variable shutter together with the ability of the camera to wind back the film for a second exposure.

3. Double or multiple exposures are possible because the film can be wound back.

4. Interchangeable chambers, of 100-foot or 200-foot capacity, make it easy to shift at any time from one type of film to another. Without finishing out a roll, it is possible to change in a moment from panchromatic to Kodacolor or to super-sensitive panchromatic by substituting a chamber loaded with the other type of film. The ability to expose 200 feet of film continuously is also a marked advantage. The chambers are interchangeable without fogging even one frame of film.

(Continued on Page 40)



The same person shown twice in one picture is a commonplace for the Ciné-Kodak Special.

By using the reflex finder it was possible to frame and focus this scene only two or three inches from the lens.



# 16 mm.—QUESTIONS and ANSWERS—16 mm.

By GEORGE J. LANCASTER

*Question*—At frequent intervals I noted in my projected picture white streaks and flashes of light at the sides of the screen. What is the cause of this condition?

*Answer*—Light fog, which probably occurred while you were loading or unloading the camera in day light. Be more careful; evidently the roll was held in the light too long allowing the light to sift through between the reel and film. I would suggest to do the loading or unloading in the shade.

*Question*—About what distance should I place the camera to get a good close-up?

*Answer*—Approximately four feet would be a good distance if you are using the f.1.9 lens. Precaution is doubly important that all action before the camera should be slower and deliberate; in focusing be more accurate; use a tape measure for correct distance and set the lens at the proper markings.

*Question*—Which filters should I use to photograph cloud effects?

*Answer*—If you are using regular panchromatic film, the series of "K" filters, numbering 1, 2 and 3 will give satisfaction. Under ordinary circumstances the "K" 1 will register the clouds faintly. The "K" 3 will make them stand out prominently, and if you want to emphasize the clouds, use the "G" or 23-A. These last two filters will over correct the color values and make the clouds stand out white, against a darkened sky. Precaution should be given to the exposures.

*Question*—Often times I have noticed in professional pictures the characters will sometimes walk from a long shot or full figure view right up to the camera to a close-up and still be in focus. How is that done?—G.E.F.

*Answer*—The reason why this is so, is because the cameraman's assistant changes focus during the taking of the scene. An amateur can also obtain the same results by either of the two ways. First, by having the camera on a tripod so that he will be relieved of the necessity of holding it, by pre-arranging his action so that it will transpire within the area covered by the lens without having to pan, or move the camera. This will allow the operator to have a free hand and also to stand beside the camera where he can see the lens markings. As the subject moves forward he can change the distance indicator on the lens to coincide with the diminishing distance as the subject moves forward. The second method would be to have an assistant. This latter method would be necessary in case where no tripod is available and the operator had to hold the camera, or where it would be necessary for the operator to keep his eye at the finder in order to follow motion. Under these circumstances the assistant changes the lens focus to correspond with the distance. When the objects being photographed are less than five or six feet away this will

require a good eye for distance and also some practice with the lens. I would not recommend this operation, but to the most advanced amateurs.

*Question*—Dear Mr. Lancaster, how can I get a position in the studios as a cameraman or as an assistant?

*Answer*—My dear John: You got me there. If I knew how to answer that question at this writing I would be considered a marvel. I would like to know the answer myself. Any others?

*Question*—16-M.M. Question Box, International Photographer. Last December I was in Yosemite Park. Some of the pictures I took were very good, while others were blurred or hazy. They were not out of focus because I know what out of focus looks like and these were different. Can you enlighten me what was the cause of this condition?

*Answer*—I am unable to give you a definite answer without seeing the pictures, but I will guess that the trouble you had was caused by moisture condensing on the lens. This happens to many of the photographers. You probably had your camera in a warm room over night and in the morning when you went out in the cold air small drops of water collected or condensed on the glass due to moisture perspiration or fogging that so often happens to those who wear spectacles. The hazy scenes were most likely shot while the lens was in this condition. Later on in the day the glass became acclimated to the cold and no more moisture collected. From then on the shots you took were clear.

*Question*—What is the difference between panchromatic type and Type K film?

*Answer*—Type two is slightly faster than regular panchromatic and has a softer emulsion. Type K (which stands for kryptocyanine) is especially sensitive to red, making it ideally suited for making moonlight effects and night scenes.

*Question*—Overhearing a conversation in the sixteen millimeter shop where I frequently purchase my film and have my developing done, the proprietor ordered a thousand feet of "dupe stock." I thought I had mastered all the names of the films on the market until I heard the word "dupe."

*Answer*—The word "dupe" means duplicating. "Stock" is a professional way of expressing film. "Dupe stock" is a special film which is used for making duplicates, such as making a negative from a positive. This film has a very slow and fine grain emulsion. Its speed is so slow that the faster type is only 75½ as fast as regular cine positive film and the slower type has but 20% the speed of positive. Cine positive is usually about a third as speedy as ordinary negative film.

(Continued on Page 46)

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(Continued from Page 15)

aviator who accompanied Levine on his flight across the Atlantic. He told me to go to Holmes Airport and get his ship ready and that he would come from the city by taxi. So I jumped in the car and ran over to the airport and again started to push planes around. By this time it started to rain and we all got drenched, but the mechanics and myself kept right on until we had the ship ready to go.

This all takes time and we had the motor warmed up by six fifteen when Mr. Chamberlin arrived. We looked over some maps and finally laid out our course and prepared to leave. We used no heavy clothes which we were sorry for later on as the open door in the plane caused a draught all the time.

We turned up our coat collars and took off in about the soupiest weather I have ever flown in and I have been in some bad weather since my first flight in 1915.

Leaving North Beach Airport, on Long Island Sound, where we went for gas, we headed southeast with little or no visibility and about a two hundred foot ceiling and finally hit the coast line around Manhattan Beach passing over the breakwater about one hundred feet altitude and headed south southeast to pick up the Jersey Coast. We were flying a plane of Mr. Chamberlin's own design, powered with the old reliable Wright J6 motor. We were both silent for some time. I sat alongside of him and rain was splashing in on us. We could just about see our wing tips and the cold gray sea below. I leaned over in order to be heard above the roar of the motor and shouted: "This sure is a tough day for flying." All I got out of him was a nod. I busied myself looking at our map and in a few minutes we saw the coast line loom up. We stayed low and close to try and find our location and the first break of silence from Chamberlin was to tell me he recognized Asbury Park, N. J.

From that time on Chamberlin loosened up and we conversed quite frequently as we were continually looking out both sides and checking the good old Coast Guard Stations that are every ten or fifteen miles apart. As we flew on down the coast we finally saw Barnegat Light, our destination on the south course, and the weather was still as bad as when we left if not worse, as it was thicker over the water.

We circled Barnegat Light twice and then Chamberlin settled himself and looked at his watch as we started to head east. Our motor was performing beautifully and he set it at 1650 R.P.M. and we were winging our way due east one hundred miles per hour, visibility poor and about one hundred foot ceiling; at times no visibility, and after half an hour flying, we were about fifty miles off shore.

On account of the lack of visibility, we could see nothing. We cruised around there for about half an hour and covered quite an area, but we felt we could do no more there and then turned our ship west again for about forty minutes as we were bucking a northwest wind and took more time in reaching the shore line again. I am sure we both realized the hazard of this kind of flying, but neither one wanted to comment on it. We also knew that we were not alone flying there and with fog so thick we had to strain our eyes to look out for other ships. We passed one plane only twenty feet off our left wing going the other way. I was on the right and did not see it and Chamberlin did not tell me until we had landed and were having breakfast. Possibly he did not want to cause me to worry. Finally the shore line came into view again and we were south of Barnegat and headed north. After talking it over we decided to go to the Naval Air Station at Lakehurst.

After locating Toms River we followed the highway to the air station and had about seventy-five feet of ceiling. It was getting thicker, so thick that we were on top of the big hangar about two hundred feet away going straight for it and had to pull up to avoid it. I sure felt relieved when we finally landed. After putting a breakfast of ham and eggs and navy coffee under our belts, we looked for information and decided to wait for a break in the weather. Up to that time we had put in about three hours of real tough flying.

We ambled into the hangar and came onto a group of navy fliers. This group we joined; several of them recognized Chamberlin and one of the pilots asked us if we saw him out about fifteen miles from Barnegat. Naturally we said: "No." Well he told us we passed directly over him going the opposite direction not more than thirty feet above.

I was glad I had the pleasure of meeting that particu-

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lar pilot in the hangar instead of meeting him fifteen miles off shore. The only navy ships that were allowed to go out in that weather were the ships equipped with radio. We bade our group adieu and went to the communication department in hope of getting some late news of the disaster. The place was very quiet, officers going about their work solemnly and quietly so we went to the Y. M. C. A. in order to get a phone to the New York office to find out what news they had there as we could get no information at the communication office. There at the Y the station chaplain has his headquarters and I saw the real tragic side of the disaster—Wives of the men, brothers, sisters, mothers and fathers of the dear ones who were aboard the ill-fated ship. Many of them were weak and exhausted from crying, faces flushed and eyes red and swollen. Many had to receive medical attention. A real heart rending sight and we were relieved when we had to leave the place.

Out in the open we were told the J ship was going to take off for a searching flight and that we were to take off and stick close to it in event that they were successful in finding the wreck. So we waited until the J ship was well on its way as we could catch it before it reached the coast and then follow it. Just before we took off we received a report that a boat had found the wreck and was towing it to Atlantic City and that we were to go out, get it landing at Atlantic City and then fly our film to New York.

By this time it looked a little better. The ceiling had raised to about three hundred and visibility was better, so we shoved off and headed out to sea again. Down near Atlantic City we saw some small boats, the first sign of life we had seen all day. They were all heading out to sea so we altered our course and followed the boats and a little later we saw two Coast Guard boats and out about thirty-five miles we could see through the haze a larger boat which turned out to be the cruiser Portland. We circled and they were flashing us a signal in code, but neither Chamberlin nor I could read it so we circled a couple of times and started to search more territory, although it looked as if they had a diver over the side and one of the smaller boats looked as if it were dragging. After a search of another half hour we headed for Atlantic City and found nothing. At Atlantic City airport it looked like a convention and air meet combined, the greatest activity that airport has ever seen. Army, navy, civilian planes of all makes were assembled there. About forty or fifty planes were taking part in the search.

By the north end of the storm was breaking and it cleared in the west. The Paramount man in charge of the operations at Atlantic City had phoned the office and Chamberlin and I were instructed to fly again out to sea and photograph the boats that were there and any activity that I could get. We gassed up and again headed east for the third time. I was to return to Atlantic City, pick up the rest of the film and take it on to New York. Although it was clearing fast on the shore, out thirty-five miles it was still dark and cloudy. We made our shots and returned as instructed and on landing our representative rushed over and asked me if I saw the wreck of the J ship, the smaller non-rigid airship. We came in from the south so we did not see it.

Without shutting off the motor we took off again and located the wreck of the J ship and made some shots and proceeded back to New York. Landing at the Holmes airport again about 5:30 P. M. we put our plane in the hangar and rushed the film to the office.

On our way over to New York we had our first

chance to relax as we had accomplished all that was humanly possible to do under the most trying conditions. I noticed that Chamberlin looked tired and I know I was. It's a long way from 4:00 A. M. to 5:30 P. M. The combination of bad weather, straining every nerve in the body, and covering several hundred miles over an angry ocean in a little single motored land plane to me was somewhat of a new and trying experience.

But to Chamberlin, a veteran of ocean flying, it was only another flight. The manner in which he so masterfully handled every situation only proves to me the great flier that he is. I also felt that his determination in such a long and diligent search was the possibility that he might be helpful in aiding those unfortunate fellow aviators, as I believe we covered more area than any of the other planes that participated in the search.

I was glad to get home and get some sleep that I needed and hope that I will never be aboard a ship and hear those four words that mean such a tremendous loss to our Navy and to aviation: "STAND BY FOR CRASH."

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# MINI

By

**WILLIS O'BRIEN**

Upper Left—Men working behind set on high-speed shot, showing how water is agitated and the animal is moved by wire controls.

Upper Right—Shooting a high-speed shot. The animal here seen was made by Marcel Delgado who makes the O'Brien miniatures. Note the spraying water.

Lower Left—The artist's conception of the scene.

Lower Right—The completed shot. Note how closely it matches with the artist's conception. The foreground water was matted and real water put in. The large tree and bank are miniature, as is the animal. The trees and foliage behind are painted on glass and backing, while they are put into the miniature by projection, this having been taken on a full size set sometime before.

Oval in Center—King Kong and Willis O'Brien. This head of a gigantic ape was made by Mr. O'Brien for the picture "King Kong." This head was controlled by men within the head. The internal mechanism was so devised that the lips would twitch, the tongue move, eyes roll, head move, and in fact do everything, even to roaring, that a real ape would do.

[Willis O'Brien, the author of the following article, has been connected with the technical phase of motion pictures for twenty years. Applying his talents for Edison in the early days, to his present connection with R.K.O. Studios, he has been a cogent accessory to the development of the miniature and trick shot and its unquestionable place in the motion picture of today. He is a recognized authority on prehistoric animals and well known for his artistic ability. THE LOST WORLD and KING KONG were made possible only because of his technical and artistic ability and they stand as pictorial monuments to his genius.—Editor's Note.]

In previous articles there has been so much misinformation presented relative to the methods used in obtaining effects shots (which do add immeasurably to the scope and general possibilities of the motion picture), that I believe a short description of the work as it is actually carried on might prove of interest.

The completed shot represents a combination of applied talents creating an ultimate picture or impression that, when well done is beautiful and conclusive. The dramatic value of the setting—its lighting and construction—are all necessary elements that must be studied and worked out prior to the consideration of the mechanical agencies to be applied.

A scene that flashes before your eyes on the screen for a few seconds may have required several weeks of concentrated preparation and work. Often a day's work of 25 feet of finished film is shown in about  $\frac{1}{3}$  of a minute on the screen. In the making of "KING KONG" a detailed sketch was made for each set. The artist created a picture or illustration of that certain bit of action. This sketch would necessarily have to be complete in all detail—the comparative sizes of people and animals, their actions, the dramatic value of the setting and its lighting.

Each scene was planned as a single picture—a dramatic conception in black and white. Continuity sketches were made combining these larger sketches in their correct sequence, so that the protraction of the story would be kept, the whole, as well as details, receiving an infinite amount of study and research.

Then the best or necessary means to duplicate this conception was worked out. It might be a miniature set with the characters or people being projected into a part of it. The practical requirements necessary for the working of miniature animals might be necessary to consider. The advisability of using glass paintings, or, perhaps matting the lower part of the set so as to use conventionally photographed foreground must be taken into account. All these and many more possible requirements must be considered.

After deciding the means to be used, the layout or construction plans were drawn and detailed, even to the exact position of the camera and the placing of people and animals. This work is done by Carrol Shephard. If the people were to be projected or matted in the set, a complete drawing for that part of the set would be necessary, so that they would take their place in the miniature in the correct perspective and create a convincing picture. In many instances of a composite shot, a full size set with people would be shot a month or so before the miniature of which it would become a part, thus necessitating exacting layouts and camera setups.

The layouts are conceived entirely from the sketch so that the shot would be an exact reproduction of the artist's conception. *Much research was necessary so as to obtain correct reproductions of every detail.*

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# ATURE EFFECT SHOTS

When the plans were ready the set or sets were put into work. Expert craftsmen carefully built the necessary units. It might be a combination miniature set with glass paintings and projected images, the sketch artists painting the glasses and backings themselves, and in many instances having the original sketch projected on the glass to serve as a guide for the glass artist. When the set is finished the cameraman and electrician light the set from the sketch.

Then tests were made until the required and desired results were obtained, the final picture being a practical setting and exact reproduction of the artist's conception.

From the foregoing it can easily be seen that the miniature technician cannot bring his set to the screen single-handed. It is fundamentally an artist's conception but requires the united efforts of many craftsman, its success depending entirely upon the combination of artistic, photographic and mechanical effects, each person being a specialist in his field but also having a general knowledge of the whole.

When making KING KONG it was necessary to have a large staff of experienced men to carry on the work. A group of men were kept busy building and repairing the animals or executing any mechanical necessity that was required. Another group built the miniatures, which included a New York Elevated Railway recreated in detail, and jungle settings on a tropical island. Mario Larinag and Byron Crabbe made the sketches and later painted the backings and glasses for the sets after the miniatures were drawn up and put to work. Besides these men, others were necessary for the actual working of the miniature.

Experience is the only teacher of the various treatments required to obtain the desired effects. Each new

set is an individual problem and requires separate treatment. There is no set rule or method by which you can classify all miniatures. The scale and size must be individually determined.

The miniature of today is a much more convincing and effective medium than it was a few years ago. The introduction of real people into the miniature (by process, matte or projection) and the addition of sound have all helped considerably. Many people pride themselves on being able to tell a miniature shot on the screen. A well-executed miniature cannot be detected, except by the expert himself. Miniatures are very often shot at high speed, that is from four to eight times normal speed. This is always done when shooting water, as the scale and illusion cannot be brought about except by the use of the high speed camera.

Miniatures and so-called trick shots are not a medium used to fool the public, but rather a means of obtaining a better or otherwise impossible angle to further the completeness of the story and often is used as the only possible solution to get the desired effect. The average picture has a few. The Hollywood Herald called KING KONG "the most sensational exhibition of camera tricks in the history of motion pictures." It was probably the extreme case because of its impossibility without them. New ideas and new combinations of older processes were used. Miniature animals, combined with the projection of people on the miniature set, created a scene that was convincing, not for the purpose of fooling the picture-goer, but to give something new and formerly impossible. I believe the public has come to realize and appreciate the true creative ability required in the conception and execution of these shots so as to obtain the maximum in artistic and realistic effects.

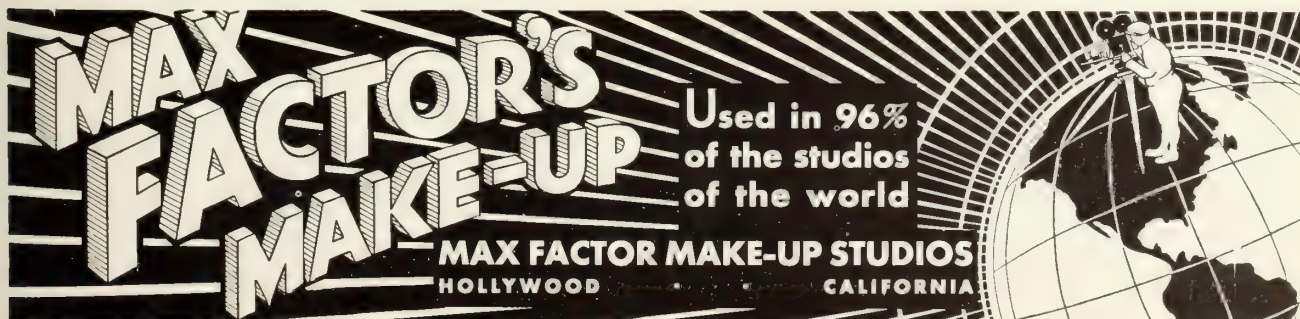
## RECEIVES HIGH HONOR

"How Movies Are Made," a novelty one reel short directed by Ralph Staub, for Columbia Pictures, has been named as one of the films to be shown during the World's Fair at Chicago this summer.

As this short depicts the daily routine of studio life, from the time a story is purchased by a movie concern, taking one through each department until the finished product is shown on the screen, it should give the visitors

a fair idea of studio life that they otherwise would not have a chance to see.

Ralph Staub, producer, director, cameraman, editor and actor of "How Movies Are Made," spent considerable time gathering this material, as it required special appointments to obtain scenes of both the sound and recording and film developing departments in action; not to mention the drafting shop, prop, wardrobe, electrical, wardrobe and other crafts that are included in the novel short.



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**CINE-KODAK (Continued)**

5. A positively-acting mechanism for making single pictures permits animation, laboratory "growth studies," speeded-action scenes, and various tricks.

6. A separate single-picture shaft for an electric motor drive is useful for time and growth studies, or for experimental sound work. Another shaft permits the connection of an electric motor to the camera for continuous operation.

7. The Ciné-Kodak Special has a slot for the insertion of masks, and a set of simple masks will be supplied with the camera. Circular masks, oval masks, and others of more elaborate shapes, are useful for certain desired effects on the screen.

8. Half-masks, which blank out one side of the film or the other, permit the same person to appear twice in one picture when the winding-back feature is used to produce a double exposure on a single length of film. Animated and human subjects, as a matter of fact, can thus appear together in one scene. By the use of horizontal half-masks the bottom or the top of the picture similarly may be blanked out.

9. A great variety of tricks and stunts are made possible by combinations of masks, dissolves, and reversing, for double, triple and multiple exposures.

10. Almost 40 feet of film can be "shot" at a winding. An audible signal warns when the spring is nearly wound and when it is nearly run down.

11. The hand-cranking feature of the camera permits the filming to be carried on when the spring motor runs down, thus letting an entire film be shot without stopping.

12. The Ciné-Kodak Special possesses a turret head for two lenses. Lenses are quickly interchangeable on the turret head, which will accommodate the various lenses that are available for the Ciné-Kodak Special.

13. A reflex finder, which cuts in on the main lens system of the camera, thus shows the image actually formed by the taking lens. By the use of this finder, both the exact picture field and the precise focus may be obtained, even in such extreme close-up position as when the camera is only an inch or two from the object to be photographed. Such an extreme close-up necessitates the use of proper supplementary lenses. Backed film as well as clear-base film can be used without hindering this finder's operation.

14. The camera is also equipped with the usual direct view finder.

15. The speeds of the Ciné-Kodak Special range from 8 to 64 frames a second, in the following gradations: 8, 16, 24, 32, 64.

16. There is a cushioned stopping mechanism for high speeds.

17. There are two film meters. One, governed by the diameter of the roll of film, is for indication of the footage left for exposure in the film chamber. The other, geared and marked in individual feet, is intended as a guide in connection with the winding-back feature.

18. The variable shutter is useful not only for fades and dissolves but also as an additional exposure control. It is valuable for producing sharp images of fast-moving objects. It can be used in place of a neutral density filter to cut down the light in Kodacolor filming.

19. Several safety features prevent many mistakes and make operation as simple as possible.

The engineers who designed the Ciné-Kodak Special consider its most important innovations perhaps to be: the eight-frame shaft (moving the film eight frames to one turn of the crank, for winding back or for hand cranking); the one-frame shaft (for special single-frame work such as growth studies or for driving the camera in synchronism with experimental laboratory equipment); the variable shutter; the removable film chamber; and the reflex finder.

Simultaneously with the Ciné-Kodak Special, the Ciné-Kodak Tripod will become available, designed for the Special but useful also for other 16-millimeter cameras and still cameras. Unusually light in weight and compact, it is extremely rigid and easy to adjust. Horizontal and vertical and diagonal panoramas can be made with it. Furthermore, a motion picture camera attached to the Ciné-Kodak Tripod can be pointed straight up or straight down—a tripod feature not ordinarily found.

Although essentially a tripod-operated camera, the Special can be hand held for the making of many shots. The Ciné-Kodak Special is not, however, intended for the requirements of every-day movie making. The other Ciné-Kodaks of the Eastman line are considered sufficiently versatile to meet the requirements of all but those amateur cinematographers or experimenters who wish to specialize in some type of advanced cinematography.

A 1-inch f.1.9 Kodak Anastigmat lens will be supplied with the Ciné-Kodak Special unless a special order indicates that the substitution of another lens is desired. In addition to this lens, others directly available are the 15-millimeter f.2.7 wide-angle lens, the 2-inch f.3.5 lens, and the 3-inch, 4½-inch, and 6-inch telephoto lenses. Other desired focal lengths can be adapted to the Special.

(Concluded on Page 41)

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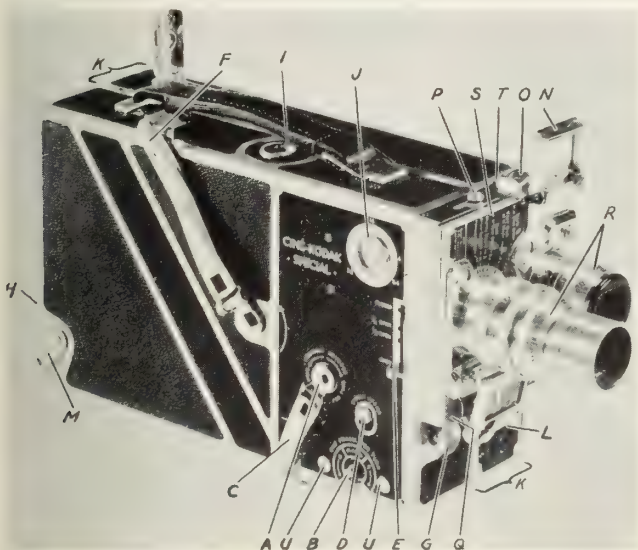
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Deliveries of the Ciné-Kodak Special have recently begun. Production will continue as rapidly as the individual workmanship methods of the Eastman instrument shop, in which the Special is being fabricated, permit.



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- A. Eight-frame Shaft.  
For winding film backwards for dissolves and multiple exposure work. Also for normal operation when hand cranking is desired, or for continuing when the motor runs down.
- B. One-frame Shaft.  
For special single-frame work such as growth studies. Camera can also be driven by this shaft for synchronism with experimental laboratory equipment.
- C. Detachable Hand Crank.  
Fits either of the two shafts.
- D. Single Frame Release.  
For animation and ordinary single-frame work.
- E. Variable Shutter Lever.  
Camera can be operated with shutter closed; quarter-open, half-open, or full open. Variable shutter also can be gradually closed or opened while camera is running, for fades and dissolves.
- F. Motor Crank.  
Almost 40 feet of film with one winding. Bell signals when motor is nearly wound and when it has neared end of run.
- G. Regular Exposure Button.  
Stopping mechanism is "cushioned" for high speeds.
- H. Regular Film Meter.  
At rear of camera. (Does not show in the picture.) Operates on diameter of roll of film. No setting required.
- I. Gear-driven Film Meter.  
Very accurate. Requires setting.
- J. Camera Speed Dial.  
Range: 8 to 64 frames a second.
- K. Removable Film Chamber.  
Contains pull-down mechanism, gate, spindles, and regular film counter. Chamber is interchangeable with other 100-foot or 200-foot chambers. One chamber may be kept loaded with Kodacolor, another with panchromatic film, etc.
- L. Aperture-closing Shutter.  
Closes chamber aperture so that no film is fogged when chamber is removed. Fool-proofed so that chamber can not be removed without closing this shutter. Also, it must be open for the camera to run. (The shutter button is hidden in the picture.)
- M. Chamber Release Lever.  
For detaching film chamber.
- N. Direct Finder.  
Usual eye-level type, attached to lens.
- O. Reflex Finder.  
Taking-lens provides image on ground glass, showing exact field and focus that will be on film. Built-in magnifying glass enlarges image for focussing.
- P. Reflex Finder Button.  
Opens reflex finder. Closes automatically when camera is started.
- Q. Turret Head.
- R. Interchangeable Lenses.
- S. Simplified Exposure Guide.
- T. Mask Slot.  
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## REPORT OF THE COMMITTEE ON THE CARE AND DEVELOPMENT OF FILM

(Reprinted by request from the Journal of the Society of Motion Picture Engineers, No. 3, Vol. 20, March, 1933.)

### PART II.

Sensitometric control is used as a third method of controlling the development of negatives. Sensitometric strips are inserted at frequent intervals to determine precisely the contrast of development and the density obtained from a given exposure. These factors are maintained constant by varying the time of development or by increasing the rate of flow of additional or fresh developer into the circulating system. The usual practice, followed when the contrast or density is found to have changed appreciably, is to vary, first, the time of development. This correction, which causes immediate results, can be realized either by varying the speed of the machine or by changing the length of the film in the developer. This second method of making the correction consists in varying either the lengths of the loops of film in the developer, or in changing the number of loops. The rate of flow of additional or fresh developer is then adjusted so that the developer soon returns to its normal strength. The machine is then readjusted for normal operation.

Due to the numerous adverse conditions that a cameraman must continually face, it is necessary that the laboratory assist as much as possible toward obtaining a good negative. While it is not very desirable, in order to obtain perfect negatives, to have to compensate for excessive or insufficient exposure, it is possible and often practicable to compensate for excessive or insufficient contrast. Thus, in a laboratory in which the sampling method is used, it is frequently possible to match approximately negatives that have been exposed under different lighting conditions. For very flat lighting, the development is increased; and for very contrasty lighting, the development is decreased. Of course, the negative development must not be increased to such an extent as to permit the negative grain to become objectionable. Extreme care must be taken at the laboratory to interpret correctly the lighting effects desired by the cameraman and director. The cameraman should always be advised of any variation made in his favor to aid in future lighting.

Although positive emulsions are used for variable density sound negatives, they are usually developed in a negative bath. This is a low gamma bath, which permits a reasonable developing time for the desired low contrasts of 0.40 to 0.55. An exception to this occurs when developing negatives recorded by the flashing lamp, in which case the records are frequently developed with the regular prints to a gamma of 2.0 to 2.2. This high

negative development tends to correct the distortion due to the under exposure. The volume level of the signal on the print also increases with the negative development.

In variable width records it is highly desirable to develop the negative to the full extent if the maximum volume is to be obtained. Frequently a special high gamma developer is employed, and gammas as high as 3.0 are found.

The usual bath employed in developing prints is of the type employing monomethyl-para-aminophenol sulfate and hydroquinone. The desired contrast of development varies from 1.80 to 2.20. The permissible variation during operation is approximately five per cent. It is extremely important that the density obtained in the positive bath after a given exposure remain constant. Frequently orders come to the laboratory for reprints or negatives that have been timed several weeks, or even months, previously. If originally the bath had been properly maintained and if the new bath is made to match the original bath properly, it becomes possible to use the old printing cards that indicate the proper printing step for each negative scene. If, on the other hand, the strength of the original bath had been allowed to vary, the negatives made in later baths would require retiming for all reprints and the timer would never be certain of his results.

Sensitometric exposures are usually employed to check the contrast and density obtained in the positive bath. However, a print made from a standard negative and a standard printer is also used as an additional visual check.

Positive developing machines are usually constructed to run at higher speeds than negative developing machines. The printed film is not as valuable as the negative, and in case of damage it can easily be replaced. Due to the brevity of time between completing the photographing of a picture and releasing it, it is usually necessary to operate the positive machines at high speeds in order to adhere to the laboratory's schedule.

The average speed of the positive machines is about 110 feet per minute. Some laboratories develop as much as 150 feet of film per minute, while others develop as little as 80 feet per minute. The temperature of the bath is maintained constant within a degree. The average operating temperature is about 66°F. The time of development varies from three and a half to eight minutes, depending upon conditions.

### D. FIXING

Most laboratories use an acid or a chrome alum fixing bath. An acid bath must be watched so as to guard against precipitation, which may cause an undesirable deposit on the film. In general practice, the fixing solution is neither mechanically circulated nor thermostatically controlled. The temperature of the room and the



proximity of the washing tanks are sufficient to maintain the temperature below 68°F. When the temperature is allowed to exceed 70°F., the grain of the film increases and sulfur dioxide may be released. The motion of the film through the solution causes sufficient agitation for proper fixing.

The strength of the fixing bath is checked by noting the point in the machine at which the film becomes clear. When this point approaches the vicinity of the wash tanks, the solution is strengthened by replacing some of it with fresh solution.

The average time of fixing negative film varies from 8 to 12 minutes. Several minutes less are sufficient for fixing positives.

#### E. WASHING

Wash water is usually obtained directly from the main supply. In some instances during warm seasons, some rough method of cooling may be required. Normally, however, the temperature of the tap water does not exceed 70°F., which is satisfactory for washing. The water flows continuously from the main into the wash tanks, and thence to the drain.

A chemical test is frequently employed to determine whether the film has been sufficiently washed. The drippings from the film can easily be tested for the presence of hypo by adding a solution of potassium carbonate and potassium permanganate in water. A greenish yellow color results when hypo is present. The average time of washing negative film varies from 10 to 15 minutes. Several minutes less of washing are sufficient for positive film.

#### F. DRYING

Since the universal adoption of machine methods of developing film, the drum method of drying is no longer used. By the modern methods, film is dried in cabinets through which conditioned air circulates. The relative humidity of the air is maintained at approximately 40 per cent, at a temperature of about 73°F. In some instances, when the machines are required to operate at maximum capacity, temperatures as high as 110°F. are necessary in order to be sure that the film becomes sufficiently dry. However, it is considered poor practice to operate under such conditions, 85°F. being supposedly the optimal temperature for drying.

The rate of flow of air required for complete drying depends upon the construction of the cabinets, the posi-

tion of the baffles, and other variables. An operator constantly checks the drying of the film by inspecting the curl of the film through the glass doors of the drying cabinets.

#### G. CONDITIONING

Laboratories have found it necessary during the last few years to be equipped with high-grade air conditioning systems. All dust particles must be removed from the air admit-

ted to the developing, printing, and assembling rooms, and particularly from the air forced through the drying cabinets. The temperature and humidity of the air in the drying cabinets are also maintained constant. Automatic temperature and humidity controls are installed in order to maintain the proper drying conditions regardless of the exterior atmospheric conditions.

(Continued on Page 47)

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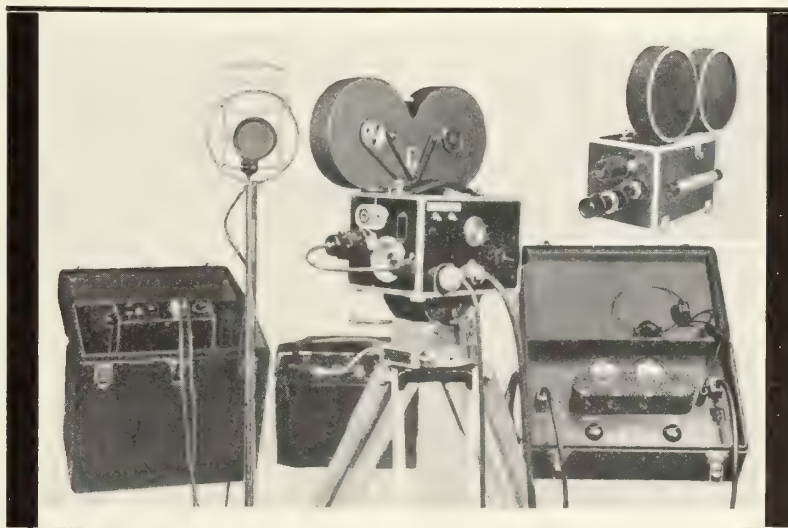
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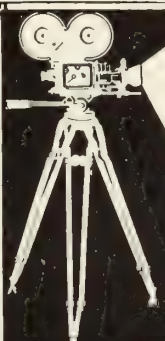
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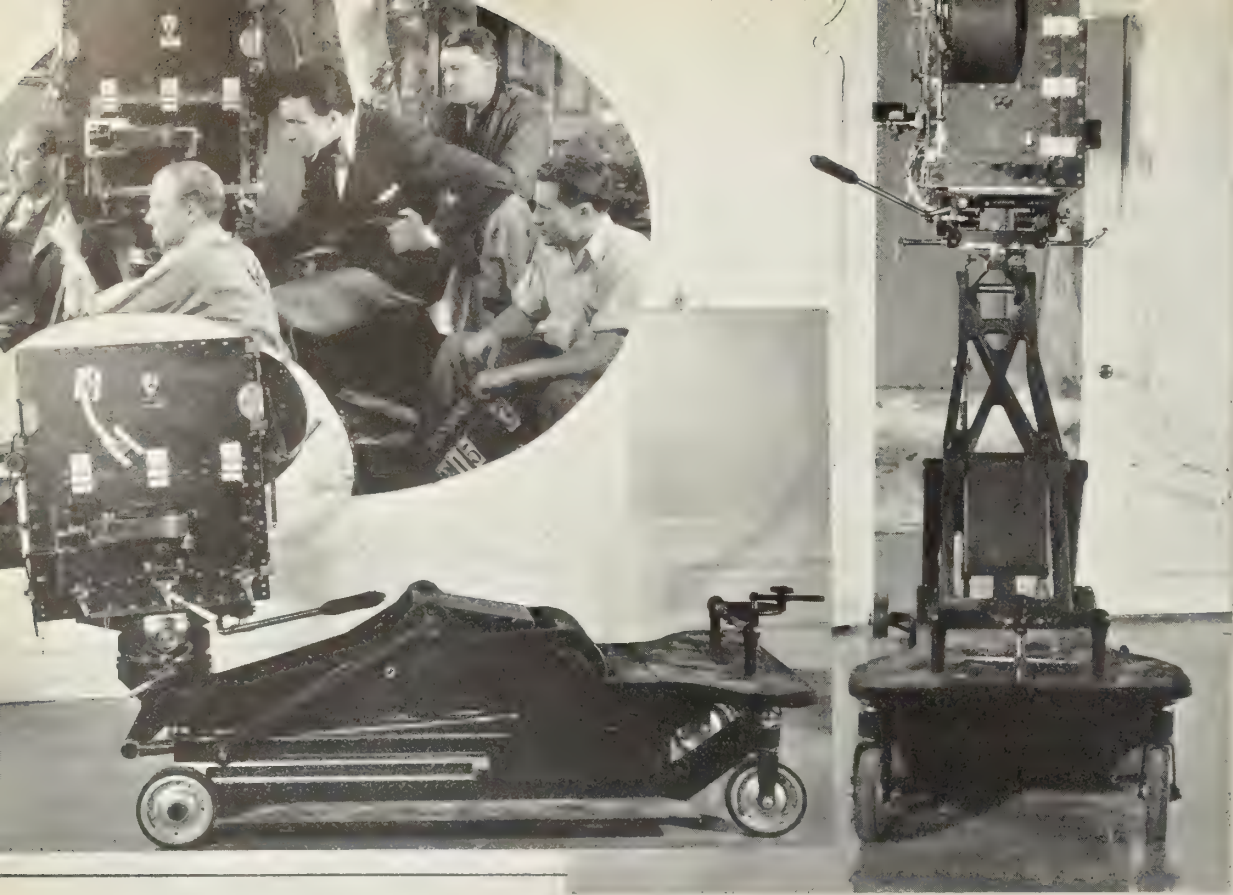
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# Kamera Kiddie Kars

By J. HENRY KRUSE

Review of the Various —bulators Contrived by Studio Genius to Take the Cameras for a Ride

From low gear to high gear would be the correct definition of the above illustration. Since the inception of the blimp for camera silencing the moving picture industry has had a problem in securing the proper undercarriage favorable for production. During the past year there has been a definite series of improvements, mechanizing and simplifying, endeavoring to secure undercarriage equipment that will give the cameraman every advantage for efficient operation.

As an illustration consider the problems that confronted Fox Studio. Camera crews were assigned tripod on wheels for normal stationary set-ups, baby tripod or high-hat for low set-ups and a dolly for moving shots, for each individual camera. The need for a single unit combining the virtues of the aforesaid equipment for efficient operation was recognized by E. W. Butcher, production manager.

The problem was placed in the hands of G. J. Fischer, camera department head. With ideas and suggestions from Cameramen Arthur Miller, Ernest Palmer, Lee Garmes, John Seitz, Hal Mohr, George Schneiderman, L. W. O'Connell and Sol Halprin, co-ordinated and designed by Grover Laube, camera technician and his staff, resulted in the Fox Velocitor, illustrated herewith, that has a free range of height of 26 inches low to a 78-inch high lens center measurement within the blimp.

This height movement can function with variable speeds during a dolly shot. Free head combined with a quick adjustable traveling device in close proximity with the camera blimp; lined for sensitivity and freedom for operating camera, it is very rigid and steady due to the use of a four wheel carriage.

It can be rotated or steered in any direction as the wheels are turnably mounted. At the same time it can pass through a 33-inch doorway or operate close in a corner and weighs only 350 pounds. As the blimp and camera can be left at all times in an extreme high or low set-up the Velocitor safety factor is self-evident.

After seeing the Fox Velocitor in operation on Director John Blystone's Picture, "My Lips Betray," with Lee Garmes as chief cinematographer, I congratulate Fox Studio on this advancement of an economical, efficient and distinctive blimp undercarriage unit.

Another improvement is the under carriage made by the Paramount Studio. In this case Virgil Miller, head of the camera department, saw the need of a flexible under carriage and put the problem to W. F. Rudolph, in charge of the precision machine shop, who suggested a miniature refinement of their large camera crane. The plan being O. K. the result was the baby boom, as illustrated (Page 45).

It is an extremely popular innovation and is perhaps the busiest piece of equipment on the lot. Its mechanical principle is different from the Fox Velocitor as can readily be seen. The lens height within a blimp measures when low, 36 inches from the floor, when high 9 feet 6 inches. It is designed for either "sync" or sound. It is absolutely silent. The platform carries both cameraman and assistant. There are three controllable circular movements; first, the boom swings in a complete circle; second, the platform itself revolves 180 degrees, controlled by the cameraman's feet; and third, the manual panning and tilting of the camera itself. It can also be





The Paramount Baby Crane. Note height of elevation.

locked permanently in any position. When desired to go through a narrow doorway, a new set of axles can be exchanged within ten minutes, reducing the width to 28 inches!

As can be seen, the Baby Boom is a great time saver, as its flexibility allows it to take the place of varied tripod equipment.

Nearly a year ago the Bell & Howell Company produced the "Rotambu-

lator," which again shows a distinct improvement over the older tripod. Its principle, also, is different from the aforementioned devices. Its base consists of a three-wheel chassis, with a circular platform and a vertical cylindrical camera mount. The platform and all, revolves by a hydraulic mechanism controlled by the cameraman's feet as he is seated in comfort on an adjustable seat. The vertical rise and fall of the camera on the cylinder is controlled by a vertical worm, which can be cranked by an assistant, with the crank placed either by the camera head or on the base of the cylinder.

The pan and tilt movements are manual and controlled by a positive and silent hydraulic resistance. It also is completely silent and will efficiently bear either an open camera or the heaviest and bulkiest blimp now in use.

Coincidentally the M-G-M Studio also constructed their Rotambulator with practically the same physical appearance as the Bell & Howell, but with the mechanism controlled by a wheel, gear and belt system cranked by hand. It is a very practical and popular device at the studio and according to John Arnold, head of the camera department, does all but fry an egg. More definite data relative to the Rotambulator will be forthcoming in the next issue.

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## FOR SALE OR RENT—MISCELLANEOUS

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## DE VRY RECORDING OUTFIT

(Continued from Page 8)

reduction is accomplished with no loss of efficiency; on the contrary, there is a definite gain in efficiency.

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## 16 mm. QUESTIONS AND ANSWERS

(Continued from Page 35)

**Question**—How much larger does a six inch lens yield than a two inch lens?

**Answer**—Three times larger.

**Question**—How much faster is the F.1.5 lens than the F.3.5?

**Answer**—5.44 times faster.

**Question**—Can you give me the actual exposures that rotary shutter gives when the camera operates at normal speed, sixteen exposures per second?

**Answer**—

Degrees of Shutter Opening	Fraction of Second Exposure
180 - - - -	1/32nd
140 - - - -	1/41st
120 - - - -	1/52nd
100 - - - -	1/64th
90 - - - -	1/72nd
60 - - - -	1/115th
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10 - - - -	1/1152nd.

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# THE LABORATORY

(Continued from Page 43)

The temperature and humidity of the air in some of the laboratory work-rooms are also controlled; particularly in the printing room, where a relative humidity of 65 to 70 per cent, at a temperature of approximately 70°F., is maintained in order to prevent the static discharges that sometimes occur when exposing raw emulsions.

The cycle of air conditioning is roughly as follows: Air is admitted through a vent into a heating chamber. After a suitable adjustment of the temperature, it is mixed with the air that is being recirculated. It is then forced through an automatic filter into the water spray chamber, where the air is washed and given the proper temperature and humidity. The air is drawn from this chamber, forced into the ducts, and distributed. In addition to this air conditioning

unit, a heating system and a refrigerating unit are also required.

(Concluded in June issue)

## STILL-MAN UP-TO-DATE



This war-like looking gentleman happens to be Shirley Vance Martin, but he might as well be any of the still-men for an opportunity to do his stuff on the set.

## OUR COVER FOR MAY

Robert W. Coburn, still-man of Local 659, is responsible for the picture on the cover.

It is a shot of a working scene from the production "Bed of Roses," starring the gorgeous Constance Bennett, with Joel McCrae as leading man.

The picture is directed by Gregory LaCava, assisted by Eddie Kelley. Chief cameraman is Charles Rosher with Jeff Gibbons, second.

The man in the water, making fog, is Redman, powder-man of R-K-O, and he is doing a good job of it.

This is a fine example of a still showing a camera crew at work on actual production.

Note the microphone depending from the end of the boom above and to the left of Miss Bennett.

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# Out of Focus



## INVESTIGATION CALLED OFF



*This study in still life shows the "lame ducks" still waiting for something to happen in Washington. Three "dumb clucks" can be seen in the background. A camera like a Leica was used to get this shot and is called the Candoo instead of the Candid Camera. Not a better camera but better English.*

A bill was presented in Congress recently calling for an investigation of the Motion Picture Industry. Its passage looked favorable until it came time to appoint the committee.

So many different departments of the government are connected with motion pictures, that, shortly after the introduction of this bill, the entire District of Columbia was getting ready to leave for Hollywood.

All the members of both houses were anxious to serve on this committee as well as their secretaries and relatives. The Army, Navy and Marines were concerned. All the ambassadors and consuls claimed they should be there to represent the subjects of their countries. The Supreme Court justices, Prohibition and Internal Revenue Departments, Secretaries of Labor, Commerce and Interior Departments were anxious to serve their country. The Customs, Immigration, Forestry, Indian, River and Harbors, Treasury, Post Office, Tariff, Federal Reserve and Veterans Bureau were a few more departments that expected to make the trip.

We have a very good Congress this session and they realized that an exodus of this size was not practical so they called the investigation off, and voted for beer in the House restaurant. Meantime, there was the "lame duck" situation staring them in the face. Why not send them out to the coast and see if they could find out anything about pictures. Various people have been trying to do this for years and there might be a possibility that one of the "lame ducks" would succeed. At least they all have beards, as you can see by the above picture, (due to the fact they can no longer use the free barber service at the Capitol) and as beards will be in demand this summer they might get work in the studios.

A wire to your Congressman would be appreciated by the Telegraph Companies, but warn them if they come to bring their lunch as things are not as "hot" in the studios as the weather man would have you believe.

## WHY NOT?

The studios cut their employees wages 50% and then permitted them to look at their books.

Why don't those employees take a 50% raise and show their books to the studios.

\* \* \*

Mickey Whalen reports, that on location recently, they had been held up with shooting for sometime on account of technical trouble. An old gentleman had been waiting to see them shoot the scene, but grew impatient and walked over and asked Whalen:

"How long before you will make this picture?"

"About two weeks," replied Mickey.

"I can't wait that long," sighed the old man and got in his car and drove off.

## EPITUFF

*Here rests a script clerk,  
Got fresh with her director.  
He reported it to the office,  
And it darned near wrecked her.*

## DO YOU KNOW

That Fred Campbell is now in charge of the camera department at Universal.

That Ernie Crockett has returned from a trip to South America.

That Buddy Williams has been in forty-seven countries and the first time he ever saw snow was on the Mojave Desert.

That Henry Girard was a piano accompanist on the Orpheum Circuit.

That Guy Bennett attended Stanford. Still has his belt buckle with Stanford on it.

That Frank Titus was a pharmacist. That he can still fill 'em.

That Bob Martin, Phil Tannura, Glen McWilliams and wives held a reunion in London recently. It is presumed drinks were served without fear of being arrested or poisoned.

That Paul Perry and Len Roos are in Sumatra for Universal.

That Wally Wallace started with the Edison Co. in 1912 as a "chield" actor and 4 years later he was "discovered" and put in the camera department.

That the Satyr Book Shop on Vine Street has the latest copies of foreign photographic books including "Das Deutsche Licht Bild." Ask for Miss Jarrett, (nice bild).

That Los Angeles County recently passed a rat proofing ordinance. I wonder if this will apply to the studios. That when Bert Glennon photographed the Ten Commandments he had a system of signals that his electricians understood and could light a set by the sign language.

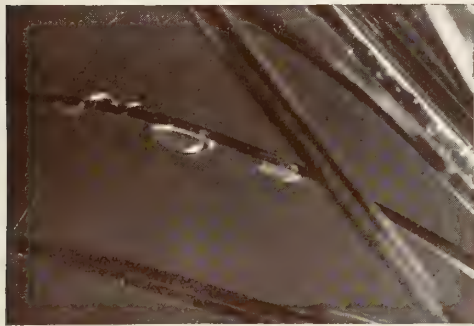
That John Arnold was re-elected President of the A. S. C.

That Fred Kaiffer was a major in the Mexican army.

That if the new Super Speed Films were available at that time they would have made him a general.



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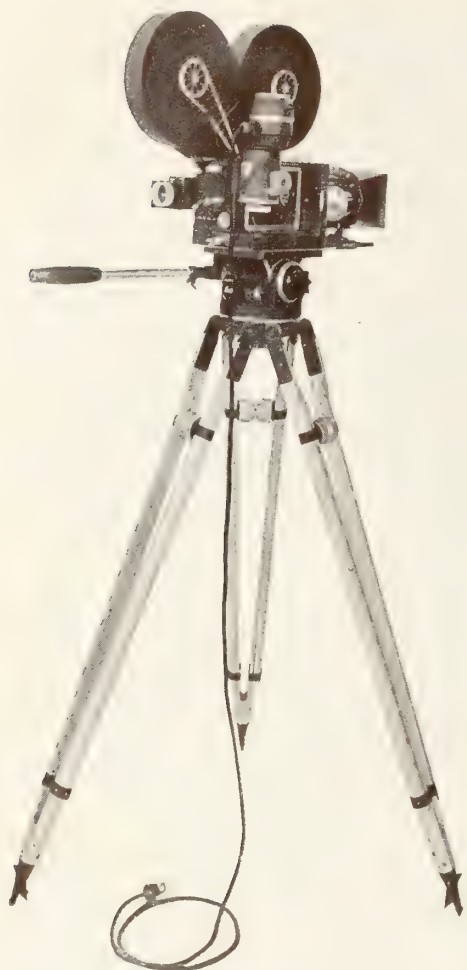
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HOLLYWOOD



*Photographed by WILLIAM THOMAS*

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# INTERNATIONAL PHOTOGRAPHER

MOTION PICTURE ARTS AND CRAFTS

Vol. 5 HOLLYWOOD, CALIFORNIA, JUNE, 1933 No. 5

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A Monthly Publication Dedicated to the Advancement of Cinematography in All  
Its Branches; Professional and Amateur; Photography; Laboratory and Processing,  
Film Editing, Sound Recording, Projection, Pictorialists.

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THE INTERNATIONAL PHOTOGRAPHER becomes the voice of the Entire Craft,  
covering a field that reaches from coast to coast across North America.

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## COMING UP FOR OUR JULY EDITION

### THE HISTORY AND APPLICATION OF FILTERS IN CINEMATOGRAPHY

#### Part I.

By Emery Huse and Ned Van Buren

### CINEMATOGRAPHIC COMPOSITION

#### Part II.

By Eugene J. Cour

### "WHAT'S HOLDING US UP"

A Picture-Log by Otto Phocus

Earl Theisen, Honorary Curator, L. A. Museum, will contribute a delightful sketch of Charlie Chaplin to be followed in August and September by "The History of Projection" and "The History of Studio Lighting."

### TELEVISION

An interview with Harry R. Lubcke, Director of Television of the Don Lee Broadcasting Company.

### THE CHEMISTRY OF DEVELOPMENT

A Story of the Lab. Tanks  
By Warren S. Transue

Shooting above the clouds with filters and the wonderful results obtained with Infra D film.

By Elmer Dyer, Ace Air Cinematographer

### OUR COVER FOR JUNE

This interesting picture shows some of the equipment used in picture production.

Doomed to horrible torture! One of the most dramatic and heart-rending scenes in Paramount's Roman spectacle, "The Sign of the Cross," is the torture scene in which Tommy Conlon is made to confess. In this scene Tommy is shown as being dragged to the dungeon at the orders of Ian Keith. Cecil B. DeMille, director, is seated on camera crane with the cameraman. First cameraman, Karl Struss; operative cameraman, George Clemens and Fred Westerberg; assistants, Fleet Southcott and Paul Cable; stills, William Thomas.







# ON LOCATION

## In CEYLON

Guy Wilky

Out of the twenty or more cameramen now trotting the globe from the ice-bound Arctic to the South Seas and from the Amazon to the Indian Archipelago, L. Guy Wilky has returned safe and sound after a six months' sojourn on the magic island of Ceylon.

Mr. Wilky left Hollywood October 21, 1932, with a Continental Films unit, headed by Thomas White, independent producer, to film a story of jungle lore, with real natives and real wild animals, a story written by Mr. White himself.

Paul Perry accompanied the expedition as color cameraman while Mr. Wilky did the black and white art work. The former remained in the Orient to finish another camera job in association with Mr. Len Roos.

Mr. Wilky, known affectionately as Guy throughout the motion picture industry, returned home leisurely stopping along the way to look over China and Japan in spite of wars and warnings.

The locale of Mr. White's activities was a small town named Balongoda, about 90 miles from Colombo, the metropolis and principal sea-port of Ceylon, a place on the edge of the jungle where a very beautiful old estate, owned by a Singalese potentate, was placed at the disposal of the movie folk.

Here was an immense bungalow with all modern conveniences and a full complement of skilled servitors, among whom was a chef who could cook real American meals and plenty of them, so that our wandering cameramen were spared the ordeals of eatin' 'em alive. An interpreter was also among those present and Messrs.

Wilky, Perry and White were able to make the wild animals understand what they were expected to do. By this simple means, never before employed in any picture, the jungle beasts turned in the finest performance on record.

The camera equipment comprised three Bell & Howell cameras and Mr. Wilky's Leica, with which latter all the stills were shot—and they were a fine lot of stills, as please note selection herewith.

The cameramen built their own laboratory, using well water filtered through cheese cloth and they had little trouble handling the film except for the humidity which made drying a tedious task.

Their laboratory experience convinced Messrs. Wilky and Perry that the most satisfactory program for handling film in the tropics is to make daily tests, dry it thoroughly, seal in wax, solder in cans and rush to the laboratory at the home studio, the drying being the essential consideration to look out for—otherwise the deadly mildew will attack and ruin the image.

Eastman and Dupont film were both used on this big job and the photography is something to be proud of—the scenery at the location being unusual and adding greatly to the picture value of the film.

Only natives were cast in the picture and a glance at the stills accompanying this yarn will give evidence that the native Singalese have a charm all their own and, according to Mr. Wilky, they are not by any means the worst actors in the world.

The thirty foot python whose graceful folds festoon



Left to right—upper—Oscar, the 30 foot python, was a useful and decorative member of the cast. . . . Mr. Wilky tuning up for the day's work (note the Van Dyke acquired in Ceylon). . . . The leading lady, a pensive and charming child who could really act. . . . Director White's script "girl"; also one of the actors. . . .

Setting the reflectors (note temporary tramway for dolly shots). Lower—mother and son taking their daily in the cameramen's private plunge. . . . Mahout Wilky going for his evening ride in the jungle (note chain of elephant's wrist watch). . . . Water buffalo, the most important beasts of burden in Ceylon.

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the teakwood tree in another still is a handsome devil in his own peculiar way and harmless unless one tries to use him as a bracelet for one's wrist watch. And he's useful, too. Vermin do not thrive in his vicinity. He is really an excellent substitute for a house cat.

Three months in Ceylon, notwithstanding their comfortable living conditions, was enough for our globe-trotters and they sailed for home April 11 last, as before stated.

The pleasure of their sojourn was enhanced by frequent visits to Kandy, the old capital of Ceylon; to Colombo, the great sea-port; to the wonderful Buddhist temples and to the famous ruins of the old civilizations, but these may be the subjects of another story if Mr. Wilky can keep his mind off Japan and its manifold charms long enough to tell us.

At any rate he has painted a wonderful black and white picture of Nippon and the Nipponese which will be forthcoming in the near future.

• • • • •

Paul Perry, who accompanied L. Guy Wilky to Ceylon whither they went to photograph Tom White's latest opus, writes from Batavia, Java, to Charles P. Boyle that he is well and getting a great kick out of life in and around the Straits Settlements.

Since he and Mr. Wilky separated at Ceylon Mr. Perry has visited Siam, Borneo, Bali, Sumatra, Indo-China and is now helping Len Roos and Chet Bennett up in the interior of Java where they went to photograph a magnificent celebration staged by the Sultan of Solo, a powerful native potentate, in honor of the marriage of his daughter.

The picture is to constitute a record to be left to the Sultan's children and the only white men to be present are Perry, Roos and Bennett, who have been ordered to report for duty in full evening dress and high hats. Imagine this regalia plus the tropical heat.

Mr. Perry reports the existence of a cameramen's union in Java—"Dutch Indo-China Photographic Union"—comprised entirely of Chinese. He will return to Hollywood in the near future.

## IN THE "LONG PIG" COUNTRY

J. B. Shackelford, famous for his scientific cinematographic expeditions into the Gobi Desert with Mr. Chapman Andrews, writes to Jack Jasper from Samarai, Island of Papua, New Guinea, that he is flirting with the wild women, head hunters and cannibals in this country where "long pig"—roasted white man—is not an unusual dish.

Shack's headquarters down there in the Indian Archipelago has been a 65-ton ketch-rigged schooner with semi-Diesel engines, fitted by Shack's ingenuity with laboratory, ice machine, electric lights, etc.

At time of writing Mr. Shackelford had a lot of film in the bag and was heading for the Fiji Islands.

The expedition is sending its film to Roy Davidge Laboratories right here in Hollywood.

Mr. Shackelford hopes to be heading for home late in June or July.

• • • • •

In this connection it may be stated that in the June issue of The National Geographic Magazine, under the title, "Explorations in the Gobi Desert," is an article by Roy Chapman Andrews who led the now famous expeditions into this wonderful land. This article is enriched by 51 photographs taken by Mr. Shackelford, official photographer of all the Andrews expeditions and never in any publication has there appeared anything finer in this particular art.

## TO ENGLAND

Edward Cronjager has been signed to photograph the Jeanette McDonald-Herbert Marshall picture, "The Queen," which is to be produced in England.



Paul Perry



Left to right—upper—the old gag—waiting for light. . . . Note Paul Perry sitting under his camera. . . . The assistant cameraman—attire strictly up to date—Hollywood take notice. . . . L. Guy Wilky with his Bell & Howell on location in Ceylon. . . . The maidens of the village on their daily job of pounding out the rice. . . . The

vampire bat. Note his airplane-like wings. He sees his world always upside down. . . . Lower—a giant land lizard, friendly and useful about the house; protected by law. . . . A small Tamil miss all dolled up for Sunday School. Isn't she the candy? . . . Mother and Dad on a quiet evening in January. A rare photograph.



# Cinematographic Composition

By  
EUGENE J. COUR

## An Outline of the Application of Dynamic Symmetry to Motion Picture Composition

[Mr. Cour is famous as the publisher of Cinema Crafts, Chicago; also Cinema Crafts Year Book and Directory. He is a technical writer on all cinematographic matters and is in every way qualified to handle this somewhat difficult subject just now attracting great attention among the more serious minded masters of the camera.—Editor's Note.]

*(Pre-release of an article that will appear with the pictorial section of Cinema Crafts Year Book for 1933)*

### PART I.

The successful motion picture must, within the scope of the celluloid ribbon that connects the main title to the end title, present to the audience—within the confines of the visual screen—a world complete within itself.

When the motion picture is broken down into the individual scenes that have been photographed by the master cinematographer each scene becomes—to paraphrase a principle of art—A WORLD IN MINIATURE WITHIN ITSELF.

To emphasize this idea we will allow this principle as above to bring us up with a bang in opposition to the much abused tilt, pan and camera crane shots that not only ignore the good taste and dictates of good composition, but upset the basic principles of good dramatic technique.

May we not first present a bit of dramatic comment for the benefit of that type of director whose only stock in trade is a good memory, viz:

"The clash in a dramatic issue is not of circumstances, but of the aims of **CONTENDING WILLS**."

"In drama or farce what we ask of the theatre is the spectacle of a **WILL** striving towards a goal."

"The real play is the open conflict and all preliminary circumstances are just 'stalling' unless they are necessary to the intelligibility of the action proper."

"Audiences are interested more in the characters that **ACT** than in those that are **ACTED** upon."

"In most moving camera shots not only the characters, but the plot as well, are being acted upon. Such scenes are fragmentary and literally stop the show to give the camera, camera crane and mechanics back of the scenes the center of the stage in the face of the cinematographers' axiom, 'Art consists in hiding art.'"

Yes, of course, there are uses for the moving camera. These uses are well defined and can be stated as those scenes in which the camera is moved to maintain the spectacle of a **WILL** striving towards a goal that cannot be limited to a fixed camera angle.

In such cases we do not violate the principles of composition or dramatic technique. In fact the moving camera in such cases is adhering to the principle of keeping the struggle of contending wills within the limits of the screen and the screen as a world complete within itself.

Those producers who are trusting to a rabbit's foot

and the director who is depending upon a good memory, might to advantage consult the cinematographer. It is accepted that the motion picture is something new on the horizon. But it is subject to the rules of the fine arts that are as old as history.

The cinematographers', "A world in miniature within itself," is a minute area that is measured in thousandths of an inch. The standard projection aperture adopted by the Academy of Motion Picture Arts and Sciences measures .600 x .825 of an inch. Within this tiny rectangle of the motion picture film the story of the written or spoken word is translated into the language of the movies.

While on this subject of the cinematographers' fractional rectangle we might point out that the dimensions adopted as a standard were evidently influenced more by the theatre architect and projectionist than by the more important principles of pictorial composition upon which the audience appeal of the picture is to a great extent based.

A projection aperture of .600" x .849"; .583" x .825"; .590" x .835" or any rectangle of the proportion of 1:1.4142 would have presented the cinematographer with an exact **ROOT TWO** rectangle of Dynamic Proportions. However, this error of proportion may be passed and for the moment the subject of Dynamic Symmetry.

Due to conventions and the adopted standards of the motion picture, the cinematographer must present his photographic composition within the bounds of a fixed, horizontal rectangle closely approximating **ROOT TWO** proportions.

Pearce says: "A picture, as far as composition is concerned, is a decoration first. If it is not a work revealing interesting pattern, if it is not an aesthetic joy 'to look upon' then it fails in what should be its essential quality."

The pictorial composition is a pattern of dark to light areas. The distribution of tone in the composition is the means to a sense of **BALANCE** in the **PATTERN**. We may secure the feeling of pictorial satisfaction without the aid of form or gradation by means of the **DIS-**

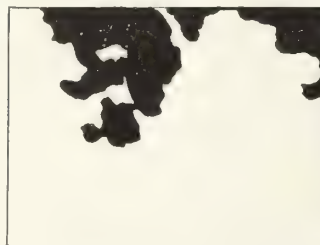


Figure 1

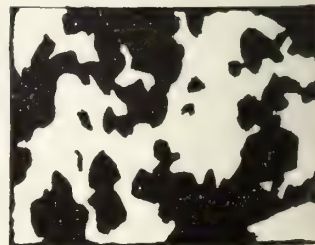


Figure 2



**TRIBUTION** of an unbalanced dark and light area. In Fig. 1 we have a **ROOT TWO** rectangle with unbalanced tonal areas. In Fig. 2, the same rectangle with the dark and light areas **BALANCED** and giving a satisfactory **PATTERN** without form or gradation.

The figures shown rather suggest a form of distribution common to the photographic crafts, more often misused than properly used, that is, the breaking up of an overbalanced "hot" sky with the silhouetted branches and leaves of a tree.

Now let us try our previous example of unbalanced dark and light areas with the addition of **FORM**. We have here the suggestion of the draped branch and leaves without a deadly or monotonous convention. Fig. 3 is a **ROOT TWO** rectangle with unbalanced light and dark areas. Fig. 4 gives us **DISTRIBUTION**, **BALANCE**, **PATTERN** and **FORM** combined.



Figure 3



Figure 4

In the same tempo we may effect an **INTERCHANGE** of the tones of unbalanced light and dark areas for **DISTRIBUTION** tending to **BALANCE** the **PATTERN** and **FORM** combination and satisfy the principles of composition. Figs. 5 and 6 and Figs. 7 and 8 present opposite conditions.



Figure 5



Figure 7

Continuing with the idea of a composition as a **PATTERN**, **DESIGN** or **DECORATION** first we must present a scheme of distribution that is not only pleasing, but one that preserves **UNITY**. It is our idea to understand first the functions of the dark and light areas. Our black and white areas without any intermediate tones create a condition of extreme contrast that it is difficult to harmonize. In fact it can only be achieved by a descending scale of areas. There must be a progressive descent from the largest to the smallest of either

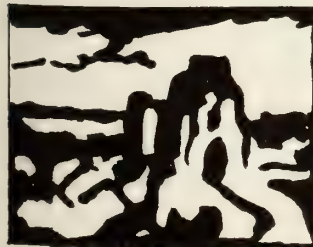


Figure 6



Figure 8

the black or the white areas. We again refer you to the same distribution as previously shown in Fig. 2. This time we refer to the scale or progressive descent. In Fig. 9 we have the progressive descent of the black areas. In Fig. 10 of the white areas.

In this we not only achieve **UNITY**, but begin to realize the **RHYTHMIC** relation of area to area, which is **SCALE**.

The quantity of dark and light and the range of tone in our pattern determine its dramatic quality. When the tones are widely separated, with the areas of dark and light equal and a considerable proportion of the areas arranged to be at these extremes of light and dark, we find that tone achieves its maximum vitality and its most dramatic quality.

An arrangement of tone in which the darks predominate, although the tones are far apart in range, tend to the solemn, tragic and eerie in character—though it must be admitted that many master painters have employed this tone theme successfully in portraiture.

When the tones of a pattern are not far apart and the general effect of the tone theme is light, then tonal

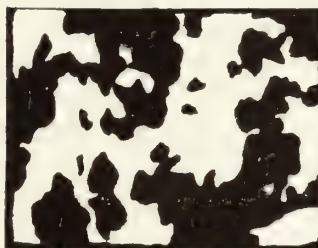


Figure 9



Figure 10

vitality is sacrificed for other qualities more desired to gain contours, interesting form and delicate texture. Strong darks introduced into a pattern of such delicacy destroys the repose and delicate theme.

We have come pretty close to introducing gradation into our pattern and it might be fitting to offer a rule governing the relation of gradation to area: "When gradation is given to a pattern the amount or range of the gradation should be proportionate to the area."

That is, if a picture consists of two equal portions, the gradation of each portion should be equal. On the other hand if a picture consist of two unequal spaces, the larger area should be gradated more than the smaller area.

Very small patches in a given composition could remain nearly flat whilst the larger areas might receive a considerable gradation. If this law is not obeyed a small over-gradated area will rob the rest of the picture by monopolizing the attention. The general vitality of the composition would be weakened and the unity dispersed.

The center of interest in our pattern must be gained by strength of tone, by form, or by the natural symmetrical relation of areas, either singly or in combination and **NOT BY ANY ILLOGICAL TREATMENT**. We will find, regardless of our principles that the boss principle rests in the fact that the center of interest in our pattern lies at the point in which our **STRONGEST CONTRAST** occurs.

Let us keep this point of strongest contrast in mind when we apply the principles of **Dynamic Symmetry**. As we have pointed out before, the cinematographer and

(Continued on Page 42)





The INTERNATIONAL PHOTOGRAPHER

# EVOLUTION of the By EARL THEISEN

## MOTION CAMERA

*Honorary Curator of Motion Pictures, Los Angeles Museum*

"Camera!" bellowed the director through the megaphone of yesteryear.

Now that galvanic command is issued in the subdued manner of a person who has learned much. Many foibles, besides the megaphone, have passed with time. The first motion cameras, for the most part, were ponderous affairs and they had many gadgets here and there about them that were as useful to the camera as an executive's third and fourth cousins about the studio today.

So, as the motion picture grew and evolved ever varying demands were made up the makers of pictures and, to satisfy this demand, it seems that every man, whether social registerite or truck driver, who saw the interior of a camera, immediately went home and tried to devise one of his own. There are records of a camera improvised from a prune box and a tomato can, with a film sprocket made of a spool and carpet tacks; another that cost a fortune and years of experimentation; and still another man devised a camera upon which he placed a solid gold name plate.

These and many others were made only to be discarded. Some saw many years of use and were incidental to the growth of the motion picture. As Lyman Broening has said: "Mr. Heinz originated fifty-seven varieties of pickles, while the fathers of the motion picture devised the same number of cameras."

Between the years of 1910 and 1917 alone the patent office gazettes list twenty-one different cameras that were patented. And, with one exception, these cameras have been relegated to the limbo where such things are assigned. Perhaps they still abound in a place where there are megaphones and where all pictures still have the hero chasing the be-mustached villian.

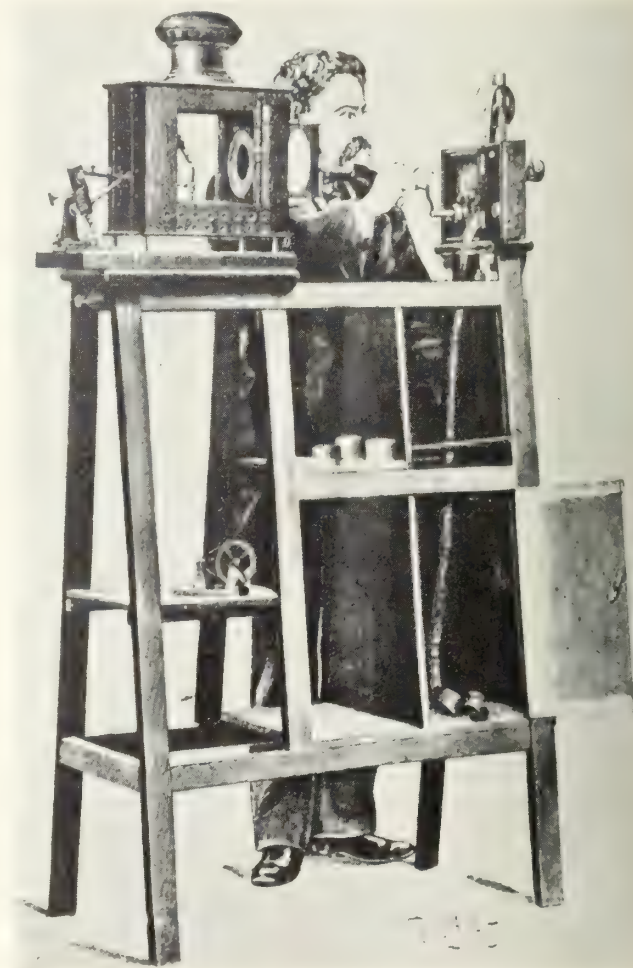
Even though that be all part of the past the spirits of these things are the tradition of the movies, and they served as a foundation upon which the industry has built.

The granddaddy of all cameras was the Edison Kinetograph. That was a camera! It was so large that it never left the studio, in fact, if it should have been necessary to take it to a "location," a day would have been set aside to move it. Before it at the Edison "Black Maria" studio was laid all sorts of stories during the time that pictures were learning to move. The Kinetograph was patented on August 31, 1897, as No. 589,168, from an application filed on August 24, 1891. It had a Geneva movement.

The Edison camera was not the first camera. P. J. C. Janssen, in 1874, made a photographic gun that was designed to take a series of pictures on a glass plate. He devised the gun so as to photograph the transit of the planets and for other astronomical purposes. Marey later devised another gun camera that he used for photographing motion. Both these cameras had a pawl intermittent. And they were both the ancestors of the modern Bell & Howell and the Mitchell.

Another camera that greatly influenced motion picture history was the Lumiere Cinematograph. It was introduced at a time when the pictures that moved were just a novelty and had not yet attained the ability of telling stories. Prior to the coming of the Cinematograph pictures consisted of forty-foot bits of nonsense of which people quickly tired. Now, due to the small compact size of the camera, it could be taken about. It could go to the story rather than the story come to it. The Lumiere Brothers set about photographing scenes and events of topical interest quite after the manner of newsreelers today. Everything was picturized from far and near. This gave a new stimuli to the waning life of the then foundling motion picture industry.

The Cinematograph was a printer, projector and



Lumiere camera, showing its use as a projector. This was one of the most practical of the early cameras, in that it was light in weight and was a camera, printer and projector combined. First used in 1895. (Courtesy Leo G. Young.)



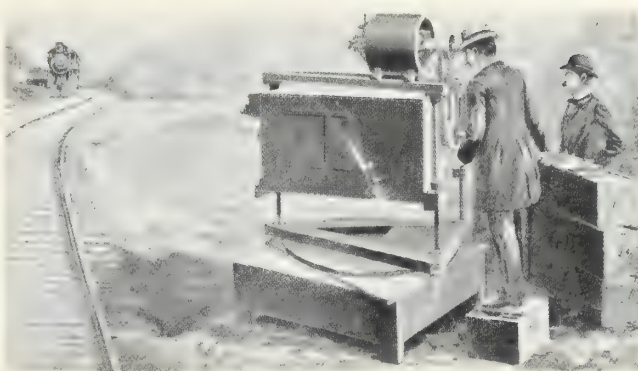
camera, combined all in one and had an harmonic cam movement. It was about the size of a cigar box and weighed less than ten pounds, whereas the Biograph with its massive motor batteries weighed near 400. The cameraman with a Cinematograph was indeed a favored person and he was aware of his importance. He never left the camera out of his sight—it sat under his chair at banquets, and on his lap when he was courtin'—because others wanted to take pictures. The maxim of "getting the picture" had already been born and those with large cameras were handicapped, and they were not above stealing to serve the cause.

Plagiarism was not a sin, yet; nor was it frowned upon. If a Lumiere print, which had only one perforation to the frame, could be borrowed it was immediately duped to the Edison standard of four perforations so that it might be sold for the American projectors.

There are examples of the French film of this early period at the Los Angeles Museum showing them to have been reperfected as well as duped. On one occasion the Lumiere's hoped to sell some pictures so they sent several films to the American distributors who made duplicates and then the originals were returned with a notation saying they could not be run on American projectors. These, and many other incidents serve to indicate the quality and value of the picture taking ability of the Cinematograph. Its first public showing was held in Paris on March 22, 1895.

The next camera—important in film tradition—first made in the fall of 1896—was the Biograph. It was a ponderous device with an intermittent friction movement perforators, an assortment of controls for this and that and enough lumber, screws and bolts to house and hold it together. It had to be held together, too!

G. W. "Billy" Bitzer, the dean of cameramen, says it photographed at the rate of 320 feet per minute, in contrast to the present rate of 90 feet. This great speed was due to the large size of the Biograph picture frame, which was nine times larger in area than standard film. And, even though traveling at this great speed, it also perforated the film as it was photographed. Due to Edison controlling the perforation patents the Biograph perforated its own stock irregularly along the edge; since



The first Biograph camera, from a picture in the *Scientific American* of April 17, 1897, showing it photographing the Empire State Express.

the Edison patent specified regularly spaced perforations.

Can you imagine one of these early Biograph cameras setting on a tripod of metal gas pipe tubing? Both Joseph Mason and "Billy" Bitzer traveled over Europe before 1900 on location with one of these cameras.

Skipping over the years to early in 1908 when the "Patents Company" was formed, we find the motion picture well on its way, with a company formed to produce pictures around everyone fortunate enough to own a camera. The "Patents Company" was a group of main producers who pooled their patents as a means of protection against the "Independents," who, after a manner of their own, had acquired a camera and were busily making pictures and infringing others' patents. The Patents Group, through patents, controlled all the necessities of making pictures; and as they would not rent, lease or sell the use of their patents a most unfortunate and embarrassing situation was created for the Independents. These determined and struggling producers, with limited capital, were forced into a sort of "bootlegging" business. And, as the Patents Company control did not extend to Europe, cameras were imported from England and France. The Moy, Williamson, Gaumont, DeBrie, Prevost and Pathe were some of the cameras imported. None of these cameras could be used in their original state, since the Patents Company officials and their detectives knew exactly what was inside of every model and every model infringed one of the many patents they held. If a detective saw an infringing camera, immediately a court injunction would put a stop to its use. Since the cameras were the very life of the Independents, only loyal and trusted employes were permitted to handle the camera. No treasure was more carefully guarded and many cameramen actually took their cameras to bed with them. At least Lyman Broening found is necessary to do so.

Bobby Newhard recalls that while working with Fred Halshoffer at the West Coast Studio, on Glendale Boulevard, of the New York Motion Picture Company, the covered camera car was backed up each morning to the office door. The safe was then carefully unlocked and the camera sneaked into the waiting car to be whisked to location in Griffith Park. It was the period of persecution and strong arm methods when everyone spent a large portion of his time in looking over his shoulder.

In many instances cameras were encased in armored boxes and the door carefully padlocked so the prying eyes of detectives might not see the mechanism. For the same reason the cameraman had to load the maga-



Pathe and Ned Van Buren, as cameramen photographing a picture directed by Eddie Collins at Lasky's. Pauline Frederick and Thomas Meighan are in the background.

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zines in the studio dark room. Since the magazines only held two hundred feet of film the locations were chosen as near the studio dark room as possible.

The cameraman was harassed on all sides. He was bribed, threatened with jail, and "gumshoed" by detectives at every crank turn, until artful dodging came foremost and photography, secondary. One fatal peek by the enemy and he had to substitute the camera he was using for some other style or make. Switching cameras became a necessity, or pastime, three or four being put into use in a single day.



Jack Fuqua with an Ernmann camera photographing the John Bunny Comedies in 1915.

Some independents made their own cameras, which were nothing more than dummies. They had a beater movement which was easy to make, although they could not take a steady picture. These dummy cameras were kept about the studio to show to the Patents Company official. That and only that was their purpose; they never took a picture.

David Horsley, one of the foremost of the Independents, had such a camera that he called his "Battleship," since the camera in action sounded like a ship in battle and it was used in his battles to remain in the film business. He relates how some Patents attorneys, the court, jury and all, came to his studio one day to inspect his camera while in operation. But Horsley was clever. He gravely set up his dummy camera to face his stage; while one of his assistants set up his real camera—one that infringed—in the next room and focused it through a small hole upon the same scene from the same angle. After the scene was completed the assistant hurried the film into the darkroom, while Horsley delayed for time, after which he took the dummy camera into the darkroom to unload. Of course, a court attache followed, but that did not hinder Horsley from substituting under cover of the subdued darkroom light, the film from the real camera for that of the useless dummy.

Later in court, after the film was shown as a steady picture, the amazed attorney, who knew the "Battleship" could not take a picture, leaned over and whispered to Horsley, "Somebody here is lying."

Horsley answered, "It's me, but it's you that must prove it."

While this "reign of terror" was going on, there was another move afoot that was to greatly influence screen history. That was the organization of the Bell & Howell Company which was formed on January 1, 1907, for the purpose of making a standardized precision apparatus for the motion picture. Don Bell's introduction to pictures had been many years earlier, when he became a projectionist on an Amet Magniscope that George Spoor used in his theatre. This led to the Kinedrone projector. The first models made early in 1898 were remodeled from the Optiscope. The Optiscopes were designed by MacMillan and sold by Sears and Roebuck in 1898.

Don Bell, later, in improving and remodeling the Kinedrone, met Albert Howell, who at that time was with the Crary Machine Works where the parts of the new Kinedrone were made.

Upon the formation of the Bell & Howell Company, they made a camera of the box model type. It sold in the winter of 1908 to the Spoor-Essanay. This was followed with a second that sold to the Kalem Company. In the meantime these two men had designed a printer and a perforator. Late in 1909 their first metal camera was finished. It had outside magazines and was of the design that since has been universally adopted. Jackson J. Rose, then of the Essanay, and George Hollister, of Kalem, both used the Bell & Howell metal model when it was first introduced. Bobby Newhard was another who was privileged to operate an early B&H. He proudly recalls something that is not done by cameramen now. This camera, with a 400 foot magazine, dropped into the lake above Twin Rocks. He recovered the camera, took the film into the darkroom and carefully, inch by inch, unrolled the wet film. He saved it. Now comes the interesting part. He poured the water out of the camera and took it apart to oil, which was fine of him; but he was two days getting it back together. You see he never had one apart before. Henceforth, in the morning before starting the day's work, while other cameramen were tightening this screw or that nut, accompanied with a wise look for the impression it would make upon the observers, "Bobby" was satisfied with oiling his camera and giving it a shake to see if things were well with it. And to this fact, that he did not tinker with his camera, he attributes his success as a cameraman.

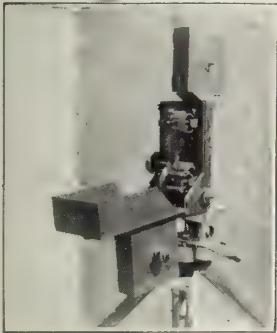
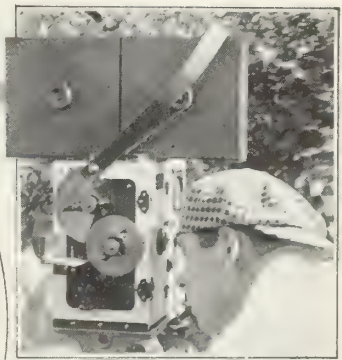
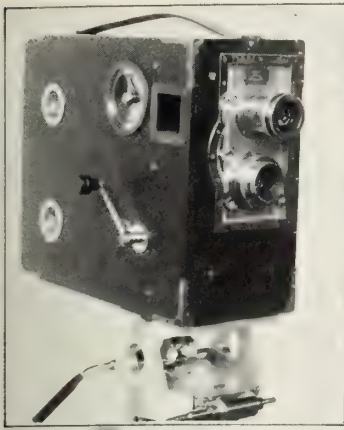
Ira Morgan, by his intimate friends called "Joe," started in 1907 with the Enterprise Optical Company. He used a Gaumont camera. This camera had a beater movement and a bicycle chain for a drive. Although far from a perfect camera it was light and could be carried about, particularly it was well adapted to follow the inevitable chase that was a part of all pictures during the nickelodeon days of the industry. It was a period when the introductions for all pictures led to a chase. With Westerns the sheriff and posse chased the villain about the hills, and with dramer-rs it was a chase up and down alleys, between the hero, or a cop, and the villain. And usually, they ended with the villain having a black eye and the hero and heroine starting on their way to be happy ever after. Imagine "Joe," our cameraman, with his clattering beater Gaumont, frantically following to "get" his chase.

"Joe" Morgan later went to the American Film Company at Niles, where he used a Bell & Howell camera.



Jackson J. Rose and the first all-metal Bell & Howell at the Essanay.





Left to right—upper. The first Bell & Howell of the Box Type, first made in the winter of 1907-08. . . . Pathe camera, with the dean of cameramen, "Billy" Bitzer, and D. W. Griffith directly behind him. . . . Lubin camera and a cameraman of 1910. Note the reversed cap. A cameraman wasn't a cameraman in those days if he didn't wear his cap backwards. . . . Lower—Gaumont Beater

Here he photographed "Broncho Billy" Anderson in as many as six pictures in seven days. They were single reelers, as were most pictures. Imagine photographing six complete pictures in that length of time.

L. Guy Wilky was in the meantime, with Lubin, making "Westerns." Their company, under Romaine Fielding, traveled about the western states on location. They carried an interior set with them, which they set up when needed. These interior sets were as a rule a cabin. They were composed of six pieces of "flats," with the furniture painted on the walls. Joe Morgan informs us that the cabin carried out for the "Broncho Billy" westerns had chairs and even a sink, painted on the walls of the canvas cabin. This was done to eliminate as much luggage as possible. These cabins did not have roofs, since sunlight was still used in making all pictures. Muslin was stretched over the top of the walls as a diffuser. Artificial light—the famous Kleig arcs that looked like the enclosed street cars—did not become popu-



Reggie Lyons with his Vitagraph camera.

lar until about 1912, although Biograph had used Cooper-Hewitt Mercury lamps as early as 1904.

During this time a large part of the film had to be remade by many of the cameramen. They had to depend upon the sunlight, which was never the same; exposure meters had not as yet come into use. Eddie Kull, while working with the Selig Polyscope Company in 1907, started to use one. His film density was so constant as a result that meters came into use. Kull further deserves credit for the introduction of the lap dissolve as it is known today. When he first started as a cameraman a dissolve was made from one scene to another by having the actors standing in a frozen pose while the entire set was changed to the next scene.

For example, if the scene was to change from an interior to an exterior the actors would go through the necessary action for the interior. When they came to the end of the required action, they would stand frozen-like, hardly daring to breathe, while the set was removed from around them and grass mats substituted for the interior carpets. This left them in the open ready to continue with the exterior scene.

In 1912 Eddie Kull made the grand-daddy of today's lap dissolves with the improved model of the Selig Polyscope made at that time. This was a continuous belt camera that could run backward or forward.

The micrometer mounts for motion picture lenses were first used about 1908. Before that practically all movie lenses were of the fixed focus variety. Fades were made by closing the iris diaphragm that was between the lenses.

(Continued on Page 42)



# Some Observations on Psychological Factors Which Govern the Perception of Three Dimensional Relief

By CURTIS R. HAUPT, Ph.D., *Department of Physics, Pomona College*

The writer has recently described<sup>1</sup> a new method of adding depth to motion pictures. This method, known as the Natural Vision process, is the first commercially practicable technique employing standard equipment for taking and projecting the pictures.

Although in certain respects the Natural Vision process is similar to the older methods of producing Stereoscopic Pictures, there are several important differences. These differences make the method commercially applicable.

If one were to analyze the method critically from the standpoint of the older theories of Stereoscopic Vision, one would come to the conclusion that the process could not possibly be successful in producing stereoscopic relief. Therefore, when one views these pictures on the theater screen, one is amazed to find that the objects stand out in beautiful three dimensional relief similar to that obtained by the eyes in normal vision.

We are forced to conclude, then, not that the older theories are incorrect but that the story they tell is an incomplete one and that other factors enter into the perception of stereoscopic depth which have never before been recognized.

Inasmuch as this is true, it occurs to the writer to emphasize the points of difference between the old and the new methods and to call attention to the psychological factors arising therefrom. This discussion is by no means a complete survey of the problem. It is hoped that a comprehensive treatment of all the psychological factors can be made, after the completion of a series of experiments soon to be started.

The first important difference between the old methods and the Natural Vision process lies in the magnitude of the displacement which the camera receives between successive panels. As has been pointed out by the writer,<sup>2</sup> former methods have all held to the mathematical requirement that for true stereoscopic representation the displacement distance must be equal to the inter-pupillary separation.

Since the inter-pupillary distance is about two and one-half inches, one is practically forced to employ the double camera, with proportionate increase in the cost and inconvenience of making the pictures. The mathematical requirement, however, does not take into account psychological factors. One becomes cognizant of the importance of such factors upon seeing these pictures projected with a degree of relief seemingly much overdrawn and exaggerated.

Before attempting explanation, it must be remembered that the relationship of an observer to a given scene in nature must be essentially different from his relation-

ship toward that identical view as presented upon a theater screen. In normal everyday experience, we are conscious of being a part of the multiplicity of objects which surround us on every side. For us space is continuous. It has no sharp boundaries. Tactual contacts with objects constantly give us the sense of solidity. We feel the pressure of the chair which is supporting us. The chair is in solid contact with the floor. The floor is in contact with the table which is in front of us. We can reach out and touch the table. The table is in contact with a wall. The wall contains a window through which we see various objects in the world out of doors. If we move our position to the side, various objects outside, which previously could not be seen, come into view while others disappear. We are thus led to conclude that outdoor space continues beyond the limits put upon our field of view by the boundaries of the window. Moreover, experience has taught us that, by moving ourselves through a similar opening called a door and thence to any point in the spatial domain previously viewed, we can verify the existence of those objects in the space of which we are a part.

Our concepts of the size and extent of objects seen in everyday vision are modified by actual contacts and by the memory of such contacts that have occurred in past experience. Memory also plays an important part in bringing to our consciousness the reality of space.

Let us now consider why the stereoscopic effect obtained on the theater screen may be considerably different from that obtained by an observer located at the point where the picture was taken. In the latter case the observer is assured of the reality of the space in which the objects being filmed are located and that, as noted above, he is a part of that space. The theater patron, on the other hand, is consciously or unconsciously aware that the action which he sees on the screen goes on in a space apart from his own. He cannot reach out and pick a flower from the garden which is projected with such realism on the screen. He assumes a discontinuity in space. The sense of balance in perception of space reality is overthrown because of the lack of information gained through tactual experience. Moreover, the screen, with its definite sharp boundaries, is a poor substitute for the unlimited space through which our eyes can move in everyday seeing.

In ordinary perception, even though we do not move the eyes or head, we are conscious of a field of view which is limited in extent and yet which has indefinite boundaries. Though objects in the center of this field are plainly seen, our visual apprehension of other objects becomes progressively vague the farther they lie from the center. The theater screen has an aspect of

<sup>1</sup> International Photographer, May, 1933.

<sup>2</sup> International Photographer, May, 1933.



unreality because of its sharp boundaries. Looking at a screen does not convey the impression of looking out of a window. If we change our positions while watching the screen, new parts of the field do not come into view at the edges. The aspect of unreality is further accentuated by the fact that the boundaries of the screen constitute a sharp cut off between light and dark regions. The theater itself must be kept dark and this sensation of being surrounded by darkness, with a definite rectangular area straight ahead in which vividly illuminated moving objects appear, is contrary to everyday experience.

It is not surprising, then, that when we remove the factors of actual or possible tactual contacts and take away the knowledge of continuity in space, as we do in the theater, that the one remaining factor—stereoscopic imagery—occupies an undue proportion of the attention and we see objects standing out in three dimensional space with a relief far transcending reality.

It is evident, then, that while we cannot give all the desirable aspects of reality to our stereoscopic motion picture, we can obtain a much better approximation to normal vision by decreasing the displacement of the camera between panels. The approximate amount of displacement can only be found by trial.

In Natural Vision motion pictures it is found that surprisingly small displacements (on the order of 0.1 to 0.05 inches) will give about the same relief as is obtained in normal vision. The amount of the displacement is so small that one wonders whether the degree of stereoscopic relief apparent can all be due to the lack

of the balancing factors of tactual contact, continuity in space, etc., which were mentioned above. There is no experimental evidence which will answer this question. We can only state that there may possibly be other influences of a psychological character which tend to increase the amount of depth seen in the pictures.

Although it is surprising to find that very small displacements of the camera give stereoscopic relief, it is still more amazing to know that it is possible to devise a method which does not require any mechanical or optical device to separate the images thrown on the screen from successive panels so that only one eye will function at a time. Natural Vision films do, however, give three dimensional pictures without the use of any mechanical or optical device mounted in front of the eyes, thus demonstrating a new psychological property of the eyes not hitherto suspected.

As mentioned previously,<sup>3</sup> the eyes themselves seem able to separate the images by some kind of selective mechanism, provided the displacements on the screen are not too great. It is impossible without further experimentation to say just what the basis of this mechanism is or how the selective process functions. It seems reasonable to suppose that experience plays an important part. We are accustomed to seeing objects in three dimensions in everyday life. When the images of such objects are projected on the theater screen, the eyes tend to see them in the natural manner, in relief.

It has been shown mathematically in the previous discussion<sup>4</sup> that in the Natural Vision system two sets of

<sup>3</sup> & <sup>4</sup> International Photographer, May, 1933.

(Continued on Page 22)

# Solve it with the Motor-Driven EYEMO



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# S. M. P. E. SEES MOTION PICTURES IN RELIEF

By P. B. FINDLEY

The projection of motion pictures in relief, visible to a group of observers occupying a wide range of positions with respect to the screen, but demanding no special spectacles or other apparatus at the eyes, was demonstrated on an experimental scale to the Society of Motion Picture Engineers on April 27, by Dr. Herbert E. Ives, of Bell Telephone Laboratories, New York.

This extension of Dr. Ives' three-dimensional work



Dr. Ives with the projector and screen he has developed for showing motion pictures in relief.

from still pictures to motion does not employ the conventional celluloid film, but harks back to a toy which the older generation will remember in which a series of pictures are mounted on a revolving wheel.

Although the action lasts only a couple of seconds before it repeats, the spectator sees a true motion picture which has all the depth and roundness of a stereoscope view. The cumbersome wheel is thus far essential, according to Dr. Ives, because of the high degree of accuracy of position needed to project the pictures on a special screen and serves to emphasize his caution that commercial application seems remote.

To understand Dr. Ives' latest development, one must first recall that seeing anything stereoscopically means that one sees it with each eye from a different viewpoint. The brain then interprets the slight differences in the two retinal images as meaning that the scene has depth. In the familiar parlor stereoscope, each eye sees a different photograph, the pair having been taken initially through cameras about three inches apart. If motion pictures are taken in a similar manner, and viewed in such a way that each eye sees only the picture meant for it, there will be an illusion of depth in the picture.

So far, the successful methods of doing this have involved the projection of the pictures alternately or in two complimentary colors for the two eyes, and either a rotating shutter in front of each person or a pair of spectacles, colored red and green, to prevent the eyes seeing any but the appropriate picture. Dr. Ives' developments break away from using anything on or near the beholder; the optical apparatus ends at the screen.

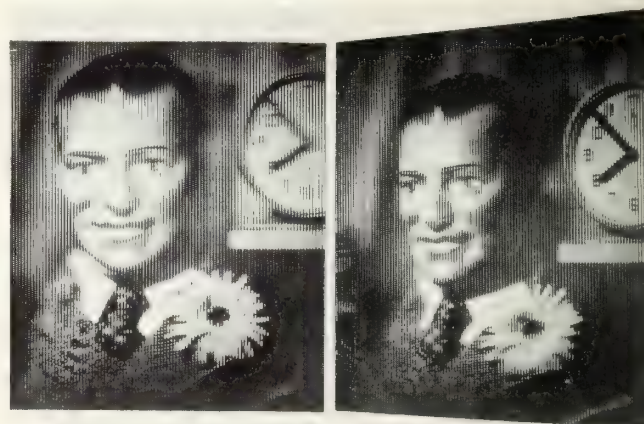
This screen is one of the basic elements of the system. It is made up of vertical glass rods, about a quarter-

inch wide, and ground to accurate cylindrical curvature at front and rear. The curvature of the front face of each rod is such that rays of light starting from an elemental segment of the rear face are refracted in a narrow parallel beam toward the observer.

By impressing successive elements of the picture, in the form of vertical lines, on the back of successive rods, the whole picture is built up for the observer. The picture on each successive element of a rod is refracted in a slightly different direction, so that the two eyes of each observer will see different pictures as built up by two different series of picture elements. Since these two pictures are appropriate for left and right eyes respectively, a stereoscopic image is seen.

To place the picture elements on the rear surfaces of the rods, the latter are given a frosted finish, and a lantern slide is projected on them. Making this slide is, however, a difficult proposition. Since the ultimate spectators, if there be any considerable number of them, will probably be spread over an angle of thirty degrees on each side of the auditorium, or a total angle of sixty degrees, the original picture has to be made from a series of viewpoints extending over an arc of sixty degrees around the object.

One way to do this would be to take a series of pictures, either successively by a single camera, or simultaneously by a group of cameras arranged along the arc of a circle and pointing toward the object at that circle's center. These schemes are, however, cumbersome and



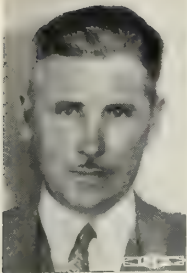
The projected relief picture as viewed from the front and from one side.

expensive. It is desirable to make the pictures with apparatus employing a single photographic exposure.

In order to accomplish this, Dr. Ives had recourse to a concave mirror four feet in diameter. Light rays from the object placed at the focus of the mirror would be reflected back to a focus at their origin were it not for

(Continued on Page 46)





Ray Rennahan, Chief Cameraman who was responsible for the unusually beautiful Technicolor Photography on the "Wax Museum."



## THE WONDERS OF PICTURES IN THE MAKING

This still is a shot taken during the filming of "Mystery of the Wax Museum." The setting is the interior of the horror chamber where the bodies are embalmed and made into wax figures. The tank in the foreground is where the wax is boiled.

The camera is mounted on a boom to get a close-up of the monster (Atwill) bringing in the body of the heavy (Edwin Maxwell) at the top of the stairs and follow him down to the boiling vat—then dolly back to a full long shot showing the entire room and mechanism, without a cut in the film. Due to camera not being in blimp, concentrator mike is being used. It is in the right foreground and has a peephole through the center by which it is focused on the actors, with Jimmie Thompson, the master peeper standing by.

The numerous pipes and tubes around the set are Cooper Hewitt and Neon tubes to use as source of light for the color light effects used in this sequence. The scene where Fay Wray is

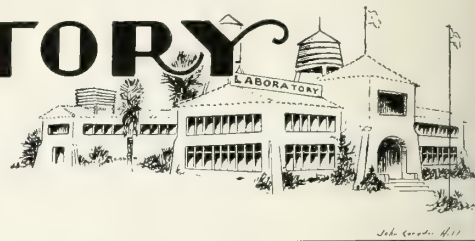
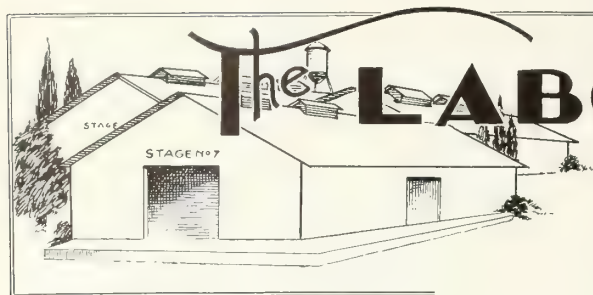
about to be made into a statue of Marie Antoinette by Lionel Atwill, and is saved by Allen Vincent, is particularly interesting due to dimming the natural light and using projected color lights.

The work of Arthur Edmund Carew as the dope fiend is outstanding and Monica Bannister as the figure of Joan of Arc is exceedingly beautiful. Glenda Farrell and Matt McHugh furnish the comedy and love interest.

It is photographed in Technicolor by Warner Bros.-First National. Directed by Michael Curtiz, photographed by Ray Rennahan, art direction by Anton Grot.

Assistant directors, Frank Shaw and Leet Katz; second cameraman, Roy Musgrave; camera assistants, Thad Brooks, Floyd Lee; sound recording, Everett Brown and Jimmie Thompson; chief electrician, Claude Hutchison; props, Limey Plue; grip, Chuck David.





## REPORT OF THE COMMITTEE ON THE CARE AND DEVELOPMENT OF FILM

(Reprinted by request from the Journal of the Society of Motion Picture Engineers, No. 3, Vol. 20, March, 1933.)

### PART III.

(Continued from May Issue)

#### H. CUTTING

After being properly dried, the sound and picture negatives are cut into single takes and properly marked for printing. The marks are so made as to compensate for the approximate 15-inch displacement required by the projector for synchronized reproduction.

A complete list of all takes is submitted to the laboratory by the cameraman. This list aids the cutter in assembling and marking the film, and furnishes advice to the laboratory as to which negatives are to be printed. Numerous takes are spoiled, due to improper action, which are not printed. Rush prints of all desirable takes are usually made immediately following the negative development to permit screening by the director on the day following the photographing. After screening, the rush prints are handed to the positive cutter, who cuts, assembles, and selects the scenes as advised by the director. After all the scenes have been photographed and the rush prints have been cut and assembled into a complete print satisfactory to the director, the print is handed to the negative cutters, who cut and assemble the sound negative to match the rush print. A complete new sample print is then made, which is cut and re-assembled until the director and producers are completely satisfied. The negative is again cut to match the corrected print, and a second sample print is produced. Titles, fades, musical accompaniment, and extraneous sounds are all added before the second sample is printed. If the second sample is entirely satisfactory, the picture is ready for release printing.

Producing companies usually have a production laboratory in the vicinity of the studio and a release laboratory at the distribution center. The second sample print is sent immediately upon completion to the release laboratory, together with the sound and picture negatives. This permits the distributing officials to inspect the picture before making the release prints.

#### I. PRINTING

The negatives can be timed and the proper printer step on which to expose a given negative can be determined by inspecting the negative. An experienced timer can determine the step on which the negative should be exposed in order to obtain a high quality print simply by inspecting the density of the negative. However, most laboratories use an exposing device, either for

the purpose of checking the timer or for use in emergencies. Such a device is so constructed as to obtain simultaneously a series of exposures that match, respectively, points over the entire printer scale. Thus, a negative can be timed by printing in such a device, and developing, this short sample strip. The proper step can then be easily determined by inspection. As was mentioned in connection with the developer, the timer must also be advised of the lighting effects in the picture that the cameraman is attempting to obtain.

Most negatives, notwithstanding the careful handling in air conditioned rooms, require a thorough cleaning before printing. Several simple cleaning devices have been tried and some are still in use. Most negatives, however, are still cleaned by hand with carbon tetrachloride. Both sides of the film are firmly wiped with a saturated pad of velvet or some other soft cloth. As the vapor of carbon tetrachloride is unpleasant, drafts are provided. The vapor is heavier than air, so down drafts are recommended. The frequency of cleaning necessary during printing depends upon the maintenance of the rooms and machines. Usually the negatives are cleaned after a dozen prints have been made.

In some laboratories, the printers are fitted with suction devices for cleaning the raw stock. Dust particles or any other particles that might have been deposited upon the emulsion are removed. The illumination of the modern printing room is more than sufficient for efficient machine operation. Properly filtered light, and white walls, can provide satisfactory uniform illumination without fear of fogging.

Two types of printers are employed in picture printing: step printers and continuous printers. The laboratories using step printers claim that, due to the better contact, the definition obtained on such printers is superior to that obtained on continuous printers. Those using continuous printers may or may not admit this advantage of the step printer, but they state that the increased speed and the ability to print either sound or picture more than compensate for a small loss of definition. Step printers run at rates varying from 20 to 70 feet of film per minute. The number of breaks, the damage caused by a break, and the wear and tear on the negative increase with the speed of printing.

Approximately half the laboratories have adapted their printers to permit the simultaneous printing of sound and picture films. This requires a second printing aperture and light source, as well as additional incidental equipment. Some few machines have been modified to permit forward and backward printing.

For newsreels, both picture and sound are printed on continuous machines. Usually the picture is printed first, the sound being properly displaced and printed after rewinding. The newsreel negative is cut into lengths of approximately one hundred feet. This permits a number



of printing machines to be used, and considerably decreases the time of printing.

#### J. DUPLICATING

Many methods of duplicating can be found in practice. Special duplicating stocks have been manufactured to aid the laboratories to produce duplicate negatives that are exact replicas of the original negatives.

A positive emulsion with a lavender base is most commonly used for master positives. The colored base serves to identify the emulsion, and acts as a filter when the duplicate negative is exposed.

A special negative duplicating emulsion is made, which incorporates a yellow dye. The effect of the dye is to retard the penetration of the light and to cause the image to be maintained on the surface of the emulsion.

In some instances, regular positive stock is used for both master positives and duplicate negatives, whereas in other laboratories the duplicate negative emulsion is used for both purposes. When the identical emulsion is used for master positives and duplicate negatives, it receives equal development in each case. Since the development gamma product of the master positive and the duplicate negative should lie in the range 0.90 to 1.00 in order to reproduce correctly the original negative, the respective development gammas are approximately 0.95.

The latest experimental results indicate that the highest quality duplicates are obtained by using the lavender duplicating positive and the yellow-dyed duplicating negative. The former is developed in a positive bath to a gamma of 1.80 to 1.90, and the latter is developed in a borax negative bath to a gamma of 0.50 to 0.60.

In picture duplicating, step printers are frequently used. Fast printing is unnecessary, and losses of definition are cumulative. Excellent duplicates have been obtained, however, on both step and continuous printers.

Sound records can be successfully duplicated in the same manner as a picture. Many companies prefer to re-record the sound, as a small percentage of the high

frequencies is lost in printing, due to poor contact and slippage. In re-recording, it is possible to equalize any desired portion of the frequency range.

#### K. SEASONING

Numerous systems are advocated for treating release prints chemically or physically in order to increase the life of the prints and eliminate projection difficulties. When new prints are projected there is a strong tendency for the emulsion to deposit on the tension shoes or aperture plate of the projector. The result is that abnormal forces are caused to act on the perforations, and the film may be seriously damaged. As this difficulty disappears after the print has been projected several times, it is desirable to treat the new prints by some method that will give them the same characteristics as prints that have been projected a number of times.

In one system the gelatin is caused to swell, thus permitting to be introduced into it substances that harden the surface and cause a glossy finish. After receiving such a treatment the film is supposed to be able to resist successfully any normal mechanical attacks. This method of seasoning requires special laboratory equipment, or the film must be sent to a seasoning laboratory. Several other systems, claimed to effect the same results, involve a patented solution which is added to the fixing bath.

Although some of these systems appear to have merit, most of the laboratories are content with edge waxing and buffing. Sometimes the buffing is omitted, the edge waxing being done automatically as the film emerges from the drying cabinets.

R. F. NICHOLSON, *Chairman*; R. C. HUBBARD, *Vice-Chairman*; J. CRABTREE, J. I. CRABTREE, C. DREHER, R. M. EVANS, D. E. HYNDMAN, C. L. LOOTENS, K. MACILVAIN, D. MACKENZIE, R. F. MITCHELL, H. RUBIN, W. SCHMIDT, V. B. SEASE, J. H. SPRAY.

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# FILM FAKERS

Not so many years ago the nature fakers became so pestiferous and so bold in their fakeries that a President of the United States, one Theodore Roosevelt, himself, found it necessary to seize his big stick and go after them.

They had become so bold that they defied even the university professors and the most celebrated naturalists of the day, until the unsuspecting readers of their Munchausenismic screeds began to believe that zoology was a nine days' wonder and natural history a nightmare.

T. R. used his big stick in his own inimitable and efficient style, until there wasn't a single nature liar left in the United States.

T. R. is gone, but in these days there is another great Roosevelt in the Presidency whose big stick may have to be invoked to stop the film fakers of the motion picture business.

*Special processing, "trick" photography, marvels of lighting, miracles of camera handling, dextrous cutting, artful technique, etc.—these are part and parcel of the legitimate production of pictures, but the deliberate juggling of film scrap to make it appear as something that it is not, and that it was not intended to be, is a quality of false practice that is sooner or later going to get the pictures in bad faith with the pix public. A case in point has just come to view:*

Several years ago Herford Tynes Cowling, internationally famous as a cameraman, whose standing in all parts of the globe both as an artist and a gentleman is ace high, was circumnavigating the earth shooting travel pictures in places off the beaten track of tourists.

He procured an amazing footage of negative that is as good now as in the days when it was made and, to get it, Mr. Cowling made certain representations to the government of India where he was well known because of his former connection with Burton Holmes.

Among other commitments was a promise that the film made in India should be used only as a Geographic and Travel picture and not in any other way.

Many other American cameramen have followed in Mr. Cowling's footsteps and they have won a fine standing with the Oriental governments by keeping their promises, but this latest development menaces their reputation for good faith and bans are threatened to be placed upon them because of the alleged misuse of the film shot by Mr. Cowling which was incorporated in a recently released picture entitled, "India Speaks," of which *Variety* says in part: . . . "It turns out to be just a wearisome 80 minutes of travelog, irritatingly interrupted by indifferent acting in phoney dramatic scenes."

Mr. Cowling is greatly incensed about the handling of his film. He says he had a contract insuring him screen and press publicity as the *photographer* and the best they gave him was third place credit on screen and nothing in the literature.

He declares that no one is able to tell whether the picture is intended to be a travel picture or a photo-play. If the former it is all wrong; if the latter then why the maps used in screening?

He continues: "They have taken scenes made in Burma, Java, Sumatra and other places and put them in Tibet and India with no regard for geographic truth. They turned my tiger shot into a lion shot, then faked a fight between a lion and a tiger."

Mr. Cowling has appealed to the Federal Trade Commission and the Hays Organization to stop the showing of his film material in any way except for the purpose it was made—a travel picture.

The producers of "India Speaks" contend that Mr. Cowling was "only a cameraman," and that he subsequently sold his right to the material in question, but Mr. Cowling answers that he was the *producer*—that he sold the film in the same way that an author sells a book, since he was the author of a filmed travel-story and that no one has a right to "fake" other material and put it in with his any more than such person has a right to change a book—except, of course, if the material put in was justified to present an *authentic* screen story.

This picture has met with unfavorable comment by all New York critics, according to Mr. Cowling, and it is generally bemoaned that the film was not released as a straight travel-geographic without hokum.

This mistreatment of Mr. Cowling is the concern of every other cameraman in the industry. The integrity of the cameraman must be preserved. The International Photographers of the Motion Picture Industry are opposed to the forced repudiation of promises and will invoke all their powers to stop such practice.

## WELCOME FAXON

Fifteen-fifteen is going to be a lucky number on Ca-huenga Boulevard pretty soon. Keep your eye on it and watch its transformation, for there's something doing there that will interest cameramen and all persons interested in photographic supplies. It will be the home of the New Deal—the Square Deal, and the man back of it is none else than Faxon M. Dean, first class cinematographer and expert in photographic equipment. Yes, Mr. Faxon Dean is going into business and he carries with him into the new enterprise not only the background of a fine integrity, but also that of a professional career that is a credit to the entire industry.

Further announcements will be made in these columns.

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# RAY MAMMES' INVENTIONS

M-G-M Studio recently patented two processes invented by Ray Mammes, formerly head of the Mammes Department at that studio. One of these is a "composite reduction process" and the other a "reversible matt," which latter is also used in other methods of making composite shots.

Mammes first perfected this composite reduction process and successfully used it in "The Trail of '98," thereby saving many thousands of dollars to the producers.

This process enables any studio to use in current productions any stock shot which would be either impossible to duplicate or impractical because of the expense involved.

The illustration shows a hydraulic mine in full operation, reduced to one-quarter or any size desired, the set action in the foreground, both joined together by painting.

Mammes, a graduate of the Chicago Art Institute, has spent fifteen years making painting and trick photographic shots. The well known M-G-M Lion trade mark is the result of his ingenuity, he conceiving the idea to paint the trade mark on a large glass, with "Yuma" back of the glass, in a clear space provided for his head, which made it possible to shoot the whole title with one exposure, thereby preventing the weaving movement, present in all double exposures in those days.

He was one of the first to use the triple exposure, employing real scenery instead of paintings, when a production required a number of shots with the same background. The first exposures were made of the action in the studio, the background was matted out on each scene, then Mammes took this same negative to the mountains or desert and double exposed the desired background in its allotted space, then returning to the studio

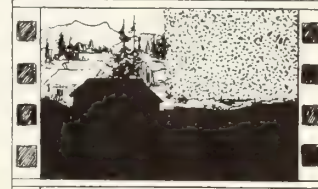
Full screen shot of a hydraulic mine in Alaska.



Cabin set at studio. Dotted area represents space where the hydraulic mine shot, reduced to that size, is to be placed.



Painting to fill the area between cabin set and reduced hydraulic mine shot.



Completed picture showing composite of all three exposures.



triple exposed a painting, which ingeniously joined together the first two scenes. Thus, sets on the back lot appeared to be photographed in the Yosemite, Glacier Park or some other place of scenic splendor.

Mammes has put many real rivers under prop bridges by this method.

Since he made his bag of tricks available to all producers, the M-G-M Studio has given its permission for him to use any of the many processes invented by him and patented by the studio during the many years he was under exclusive contract with them.

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# The NEWSREEL WORLD

By

**RAY FERNSTROM**

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## THE INDISPENSABLE DE VRY

Have you ever stopped to consider the growing dependence on this practical little box in modern newsreel work? There is perhaps no camera with more odd jobs to do. It does more magic tricks than even the newsreel camera and sound men themselves, in fact there is no question that it has saved the lives of at least a few men. Who would dare stick his neck where the De Vry is often placed, close to onrushing race cars, horses, trains, or in the nozzle of sixteen inch guns?

Whenever you see scenes taken from the ends of wings in air pictures you can always be sure it was a De Vry job. These oblong cameras strap so easily to almost any surface and can readily be started by wire from the cockpit. Parachute jumpers have leaped into space with De Vrys, recording in film the rapid descent and sudden jerk as the chutes opened. When once a newsreel wished to show a plane spinning to earth in a crash a little black box strapped to the tail showed exactly how the pilot would have felt had he not jumped with his umbrella before the dive. Believe it or not, that same one inch lens is still doing business at the old stand.

Speaking of one inch lenses, the Paramount News boys here in California surely made a pip of an under water camera out of a De Vry. They simply made a camera shaped bag out of balloon fabric—a sort of rubber cloth that is both pliable and watertight. On the closed end they cemented a circular piece of optical glass with a metal rim for the one inch lens to shoot through. That, my friends, is their under water camera. To use it the camera is merely slid into its case, the end of the bag rolled over with air excluded and the rolled over piece taped with ordinary film tape. As a precautionary measure the glass also is taped to the front of the lens securely. Releasing the trigger is accomplished through the flexibility of the cloth. The one inch pointed in the general direction of the subject is bound to connect, even without a finder.

Once another ingenious newsreeler desired a projectile's eye view as it passed through the nozzle of a Big Bertha. Here the De Vry was let slide down the inside of the cannon with the barrel's rifling giving it the illusion of spinning. What a thrill that shot gives cut into a navy gunfire story.

So here's to a reel trouper, the little De Vry, the newsreelers' pal.

## WHY NOT ZOOM THE NEWS?

If ever a couple of lenses came in handy in the old one lens days, so does one lens now replace the great collection we carry today in newsreel work. The new zoom lens that you saw advertised in last month's INTERNATIONAL PHOTOGRAPHER acts as if it were made to order for us newsreel men who have long wished we had something to save us from changing lenses in the middle of a swell shot. This baby zooms from 40 mm. to six inch with a turn of the crank while you shoot—back and forth from close-up to long shot while

some man talks, whose every word you want to catch and yet shift lenses. The elements inside of it take care of sharp constant focus through its entire range. Here's hoping some newsreeler kicks through with a shot soon using one of these marvels. They are handled by Bell & Howell and go by the name of Cooke VARO.

Imagine a baseball or football game where you can shift from a close shot to a scene of the whole field while the action is also spreading out, then back to a close-up of the guy who is the center of action. Why, this one lens can change the whole method of newsreel coverage. Go to it and our hat is off to the first newsreel to use it, for that reel will pass a milestone in newsreel history.

While on the subject of lenses did you know that Mitchell Camera Company is now offering an Astro lens with the enormous speed of F:0.95? Isn't this news for newsreelers? Picture the stuff that this window should get on news stuff where the light is nil and no more allowed. I don't know much about this one yet, but it sure calls for investigation immediately. I can say this, though, that any lens made that fast and sold by Mitchell should be in the hands of all news shooters who, more than any others, have the occasion for such a lens to show its stuff.

## POSTAGE STAMP MIKE

Yes, sir, that is what I said and what I saw in a recent issue of Paramount News. I asked Marshall MacCarroll about it and he tells me it was sponsored by their Los Angeles and New York units. He says it is only a quarter of an inch thick, the size of a three cent stamp and is made of a piece of Rochelle Salt Crystal. He adds that it is not subject to temperature, humidity or pressure changes and is the invention of a fellow named Brush. For the benefit of fellows desiring one they are on the market. Great work, Brush. Now please invent a little lightweight sound camera for the newsreel boys about the size of a Contax.

• • • • •

With this issue of The International Photographer the writer says good-bye to California. Henceforth my address will be somewhere in Europe.

Yesterday I sat through eight reels of the latest newsreels. The forward strides made by the newsreel men in photography was very noticeable and this, despite the fact that a news man has to be his own story writer, director, script clerk and supervisor. It just goes to show how capable our newsreelmen really are and how worthy of credit.

I regret to say that you newsreelers have not yet tried the 5N5 for your scenes where the light is extremely contrasty. Take for example the baseball coverage. Part of the field is in deep shadow and part in bright sunlight. There is a perfect condition for the 5N5. With this filter you will cut down the contrast and have a much better balanced exposure throughout your field. Try it just once and watch the results. You'll never cover that kind of a scene again without it.

*(Continued on Page 21)*



# Cinematography of Nature

## (The Rationale of the Akashic Records)

By GEOFFREY HODSON, Author of "The Science of Seership", Etc.

[Mr. Geoffrey Hodson is an English writer and lecturer of international reputation. He has but recently completed a protracted engagement in Los Angeles, Hollywood and Glendale under the auspices of the Southern California Federation of Theosophical Lodges. During this period he delivered upward of forty lectures to large audiences and at the same time conducted classes of instruction in occult subjects. About the first day of May Mr. Hodson was called to San Diego to deliver a series of lectures after which he will embark for a two years' lecture tour around the world. His amazing contribution to this periodical, herewith most gratefully acknowledged, will be food for thought among the researchers into the realm of the unseen.—Editor's note.]

Photography has been the author's hobby since boyhood; his interest can, therefore, be easily imagined in the discovery in an occult book of a statement of the existence in nature of permanent, depth, motion pictures of every event in history. The idea was immediately followed up, further study revealing that, according to occult teachings, there exists in nature a fifth principle, or element, in addition to the known four of earth, water, air and fire. To this, the queer sounding name of "akash" is given. This substance, which is super-physical, is said to be electrical in its nature, and therein lies the germ of the particular idea upon which the author has often pondered and wishes to bring out in this article.

First, more about the akash. This substance is credited with peculiar properties, chief among which is one that resembles that of photographic emulsion. According to occult science akash constitutes an inexhaustible supply of super-physical photographic film upon which is automatically and indelibly imprinted every event as it occurs. All that has ever happened from the dawn of creation down to the present time is recorded in this film library of nature, the Akashic Records.

If this be true, and the author has come to believe that it is, it means that the actual facts of history can be recovered; that the suicide of Cleopatra in Egypt, the landing of Julius Caesar in England and of Columbus and the Pilgrim Fathers in America, for example, can still be observed by appropriate methods.

This astounding conception opens up all kinds of interesting possibilities and is a starting point for fascinating speculation. If for example—and here is the central idea of this article—akash is electrical in its nature, even though as yet invisible as is electricity itself, why should it not be possible to contact the records and to transform the super-physical energy of which they consist through some specially designed and sufficiently sensitive rheostat, stepping it down to physical voltages, so that the records could be projected on to a screen?

History at school would then be very different from the long and dull series of dates and lists of kings, battles and treaties which constituted so much of history study for most of us who are now grown up. Students would see and hear the events of the past, just as they are now seeing motion picture news reels.

Granted, a strict censorship of the projected Akashic

Records would be necessary, that considerable cutting and editing would be required and that some form of language translation be needed; but if this theory became practice, history would be a living study and dead language come to life again. So also with geology, archeology, ethnology and almost every other branch of science; in fact the educational possibilities alone are almost limitless to say nothing of the entertainment value of the idea.

That this is not mere speculation alone appears in the further statement to be found in the occult literature to which the author has access, chiefly that of the Theosophical Society, that there resides in man the power to read these records; that some few have developed it, large numbers of people possessing the power without being aware of the fact. The faculty known as psychometry enables a sensitive person holding an object in his hand to see before his mental eye a series of pictures either of the owner of the object or of the place whence it came or of events connected with its history. This is explained by the existence of Akashic Records and the psychometrist's power to read them.

According to occult teachings every object carries about with it its complete life history, electrically recorded on its surrounding akash. Once definitely observed by the modern scientist and inventor, the physical projection of the Records might well become a fact.

Since his discovery some twenty years ago of these and other occult conceptions, the author has himself experimented in this direction. As a result of following the practices enjoined, he has succeeded in developing within certain limits, powers of extended vision and hearing. These have enabled him to test for himself the truth or otherwise of many of the teachings of occult science, among them, those concerning the existence of the Akashic Records.

At the risk of straining the credulity of the practical minded readers of this magazine he ventures to state that he has succeeded in seeing clairvoyantly events both of the near and distant past and in hearing the sounds which accompanied them. He has even demonstrated this power under the strictest scientific tests. He was recently taken by the internationally known archeologist, Dr. Robert Gilder, discoverer of the house sites of the Nebraska Cultural Man, to an excavation near Omaha, Nebraska. Without the slightest foreknowledge of the subject or of the place to which he was taken, he accurately described the type of humans that once lived there, the shape of the house, position of doorway and the existence and method of employment of certain bone implements which, unknown to him, had already been discovered at that place and were in the Archeologist Museum.

He also gave exactly the period of the civilization, which was 5,000 years old, as revealed by lime accre-



tions and other evidence. He mentions this not in the least to extol his own small gift, but to show that he has given to the subject of this article some considerable attention and has reasons which are sound to him for promulgating the ideas which it contains.

The experience of reading the records of the past is something like that of watching a cinema performance, yet different. The observer is not external to the scene, but is present at the time and place of the events he is witnessing. He does not watch a series of two dimensional photographs, but sees the events themselves, hears the typical sounds and sights of the period and place, and may even experience the climatic conditions.

The writer has, for example, actually heard the sounds of the streets of ancient Egypt, the rustle of sandaled feet, the cries of men to beasts of burden, the sonorous chanting and strange music of the lyre of religious processions. He has also witnessed in ancient temples strange ceremonies, many of them resembling modern Masonry, with officers similarly placed and signs and symbols known to members of the craft in modern days.

Is such a statement entirely unbelievable in these days when the physicist and astronomer are so rapidly pushing their way into the unseen world, are studying and measuring invisible energies? Sir James Jeans, the British astronomer, avers his belief in the existence of a major mind, of a thought process behind the universe, geometrical in character. Professor Arthur Compton, of Chicago, states his belief in a "directive intelligence" in nature, guiding all natural processes. Is it, therefore, going too far to postulate a memory of nature, a record of all events existing within the directing major mind? This is definitely implied in the idea of the existence of the Akashic Records.

The possibility of tapping this memory may not be so remote as at first one might think. The author has seen electrical devices capable of measuring the wave length of the organs of the body and of their invisible emanations, both in health and disease. He has heard the great Indian scientist, Sir Jagadish Chandra Bose, describe his experiments in detecting and measuring the heartbeat of plants, their reactions to poisons and stimuli.

**Camera Angles**—Elissa Landi, exotic Fox star, poses on a camera crane between scenes in the spectacular *Dance of the Maidens* ballet set of "I Loved You Wednesday," in which she shares star honors with Warner Baxter. Miss Landi has the role of a ballerina in this opera.



From London comes the recent news of the invention of an instrument capable of determining from a photograph whether the subject is still alive or has died since the picture was taken. Mr. E. S. Shrapnell-Smith, British scientist, who has experimented with more than 700 photographs states that the instrument is able to detect the movement of life waves, fixed upon the photograph when it is taken and which die with the subject. He further states that in his opinion the human brain emits a distinct type of wave, which affects the photographic plate as do light rays. He further claims to be able to measure the life waves which show lively movement if the subject is still alive, but none if dead.

To the author this is quite credible and understandable. He has seen and practiced experiments in thought transference which demonstrated beyond all doubt that thought is an energy transferable from one mind to another. The infectious nature of emotion, which among other things explains crowd psychology, further suggests that invisible forces do exist and can be transferred from one organism to another.

The many volumes of the Proceedings of the Society for Psychical Research contain records of large numbers of attested cases of clairvoyance, clairaudience and other abnormal powers. Occult literature supplements these with logical explanations of the rationale of such powers. Its pronouncements are definitely more easy of acceptance in these days of the detection and measurement of Cosmic Rays entirely invisible to normal sight, of the common use of the unseen Hertzian waves in broadcasting, as also of electricity, itself an invisible force. He is a bold man today who places a purely physical limitation upon the possible achievements of science.

Co-operation between occult and physical scientists will, in the author's opinion, be used in researches of the near future. He is himself already at work in this field in conjunction with medical scientists in the diagnosis of disease and with qualified physicists. He believes that the time is near at hand when the division between occult and physical science will disappear and the trained occult investigator be at work in the laboratory of the physical scientist.

One of the early results to be expected from such co-operation would be the re-writing of history from a study of the Akashic Records. Later might come their projection upon a screen.

### DUPONT SCORES

Wes Smith, of the famous house of Smith & Aller, distributors of Dupont films, is enthusiastic about the picture, "Thunder Over Mexico," recently completed by the famous Russian director, Eisenstein. There are some forty miles of Dupont film in this great opus and Mr. Smith is pardonably proud of the photography.

### PHOTOGRAPHY AT ITS BEST

Warner Bros. and Mervyn LeRoy are to be complimented on the technically perfect details of "Gold Diggers of 1933."

It is a gorgeously mounted musical. The photography does more than its share toward making this picture a magnificent production.

Great credit is due Sol Polito for the masterful way in which this picture is photographed.



## THE NEWSREEL WORLD

(Continued from Page 18)

The same goes for those big closeups of people. Half a man's face is burned up with light and the other half shaded. Why not use the 5N5 just once on such shots? Just one trial and I am certain you will always take the trouble of using it again. Allow three full stops.

In mentioning filters may I refer you to Fred Westerberg's perfect charts for cinematographers now current in *The International Photographer*. There you will find the most complete dope on filters, lenses, film, etc. I have never found a more useful collection. It is one that should be in the possession of everyone even remotely interested in photography.

The newsreel gang seems pleased with my recommendation on the good ole 23A. The pictorial quality of the recent issues of the newsreels, proves the value of this corking filter. Some of the boys wanted even more contrast and some less. The 25A is more contrasty and the G15 a little less. Use the same allowance on G15, but a little more on the 25A, say half a stop. You'll find an allowance, in use, that suits your personal taste.

The ole guard has a motto on filters that is all wrong: "When in doubt do not use a filter." I say: "When in doubt, use an AERO 2." Try it and see.

NEW MOVIE MAGAZINE, one of the largest fan publications, on sale at all Woolworth stores, is running a poll of the year's best pictures. It is the first to list awards to newsreels. Here is a chance for credit. If you chaps try to improve your photography your chances are better for an award. The possibility is that the award will be made on a story that was covered by all reels. One man may have better photography in his scenes and, therefore, take the edge away from some guy who didn't take the trouble to filter his stuff. If you fellers take this stuff of mine seriously just once you will be enthusiastic

users of filters from now on.

Agfa negative, I see by Fred Westerberg's chart, is more sensitive to reds than the others. Why don't some of you fellers try this negative with a 23A on some air stuff and give me the dope for the magazine. I have not tried this negative for some time, but I used thousands of feet in Europe. On my journey abroad I'll use some AGFA and keep you posted on what I find. It will be fun trying the different negatives under varying conditions. The findings should be of service to you all. Won't you drop us a line, at this magazine?

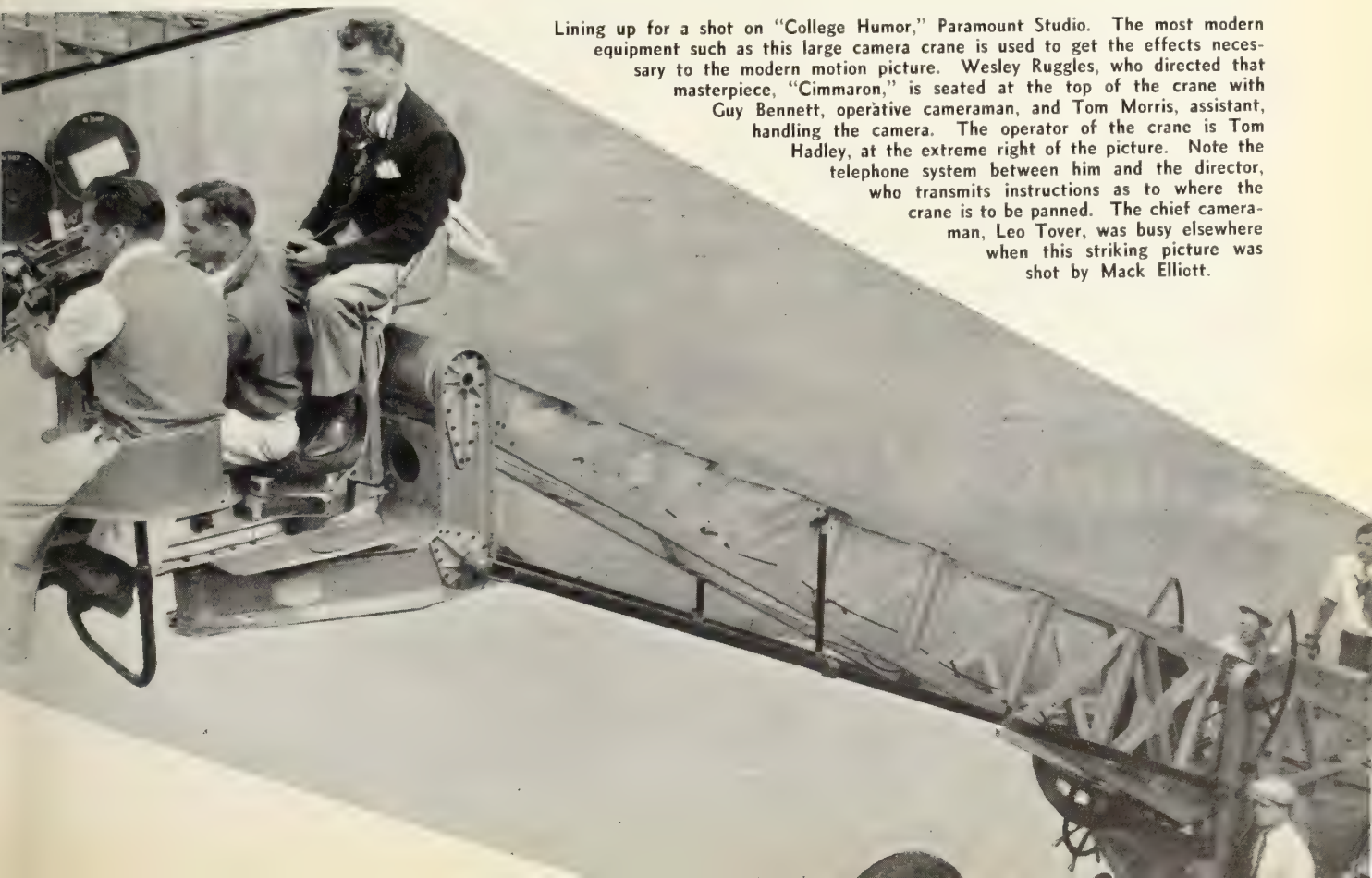
## PERSONAL NOTES

Here's credit to one of the Army's best camera pilots who has done nobly for us newsreel men for ages, Lieut. M. Kaye. Kaye and Lieut. Goddard have done more newsreel cameramen piloting than any other men in the United States Army Air Corps.

Lieut. Kaye has just been put in charge of all photography at March Field during the giant combined Army air maneuvers. Al Brick, of Fox Movietone, has just brought me the news from there where he's been stowing plane stuff in his black coffee can. Good old Kaye is the favorite of all Pacific newsmen when it comes to their shooting Army air scenes. Kaye has a favorite shot he always gives the gang, known as the "Kaye ristofer," a tight bank over the action that keeps the subject smack in the lens without any wing tips, etc.

Greetings and salutes, Brother Kaye, and happy landings!

And now, au revoir, friends. I do not know where I shall write next month's sheet from, but it will be in here. I leave soon to join Universal Newsreel's foreign legion and I hope to find much newsy stuff for them and you. In the meantime, address all communications to the Editor.



Lining up for a shot on "College Humor," Paramount Studio. The most modern equipment such as this large camera crane is used to get the effects necessary to the modern motion picture. Wesley Ruggles, who directed that masterpiece, "Cimmaron," is seated at the top of the crane with Guy Bennett, operative cameraman, and Tom Morris, assistant, handling the camera. The operator of the crane is Tom Hadley, at the extreme right of the picture. Note the telephone system between him and the director, who transmits instructions as to where the crane is to be panned. The chief cameraman, Leo Tover, was busy elsewhere when this striking picture was shot by Mack Elliott.



### LOCATIONS BY AIR

Elmer Dyer's scent for location is so keen that on Director Clarence Brown's great picture, "Night Flight," Mr. Dyer was sent out by M-G-M to find some mountains that look like the Andes. He went via air, accompanied by a pilot and, after only eight days, returned to the home roost with just what the producer and director wanted. The locations selected were in the vicinity of Long's Peak, Pike's Peak and Manitou. So excellent were Mr. Dyer's aerial shots that many were used for backgrounds, thus making the cost of the trip to the studio practically nil.

### WHY, SID!

Sid Hickox is home from a piscatorial peregrination to the Sierras. He caught all the trout allowed by law besides discovering a pool where no white man but himself has ever been. The fish are so thick there that they have learned to holler "move over!"

### COME AND GET 'EM

E. Leitz, Inc., New York, manufacturers of Leica camera, have sent to THE INTERNATIONAL PHOTOGRAPHER a forty page booklet on developing, printing and enlarging Leica pictures. It is chock full of photographic lore and every Leica owner should have one. So long as they last they may be had by calling at the office of THE INTERNATIONAL PHOTOGRAPHER, 1605 North Cahuenga Avenue, Hollywood, or by writing to the publisher, 60 East 10th Street, New York.

### THREE DIMENSION—

(Continued from Page 11)

images are possible. One set is located behind and the other set is situated in front of the screen. Since it is apparent that only one set is chosen, the writer has suggested that, due to the tendency of the eyes to fixate on points behind a picture, the set of images behind the screen is the one chosen.

The sensation of a third dimension is dependent upon this process of fusion together with the proper selection of images as already mentioned. The eyes will not perform these functions unless the images are projected in rapid sequence. That this is so can be demonstrated not only by projecting two panels of the film simultaneously, but by the simple experiment of ruling two parallel lines close together on a piece of paper, holding the paper at some distance from the eyes and attempting to fuse the images so as to see only one line. It will be found that this cannot be done. These facts are of great psychological significance, but with the present imperfect state of our knowledge it is impossible to give an explanation of them.

The incompleteness of the foregoing discussion renders it unsatisfactory. Much careful experimentation remains to be done. The present aim of the writer, however, is to draw attention to new and important psychological phenomena involved in this new method of projecting moving pictures.

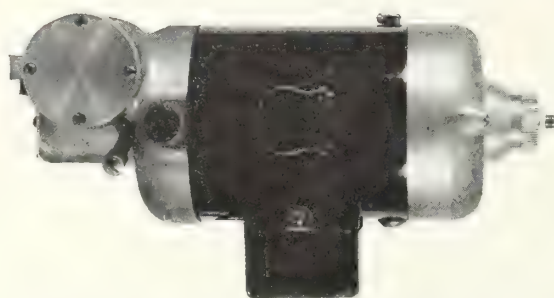
The writer desires to express his thanks to Mr. Ramsay L. Harris of the Norton School in Claremont, for correcting the manuscript and to Dr. Robert S. Ellis of the Psychology Department and Dr. Wesley G. Leighton of the Chemistry Department at Pomona College for their helpful suggestions.

## FEARLESS CAMERA COMPANY

Announce

# MOTORS AND GENERATORS

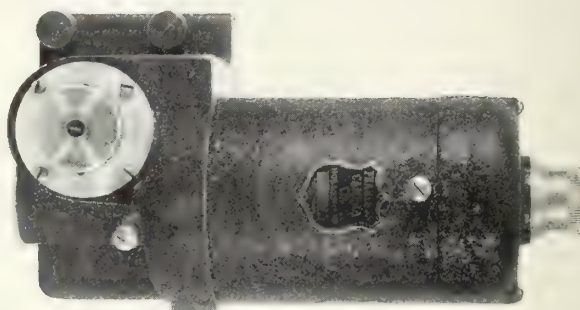
For Motion Picture Use



Universal Variable Speed Motor. Weighs 6 lbs. Guaranteed to pull 1000 feet of film through camera at constant speed.

Variable speed control from 6 to 26 frames per second. Made for Mitchell or Bell & Howell cameras.....

**Price \$150.00**



Silent Camera Synchronous Motor. Weighs 8 lbs. Silent geared plug in type. Full 1-15 H. P. No adapter required. Built for Mitchell or Bell & Howell cameras. 50 or 60 cycle, 3 phase current.....

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We also make 48, 50 and 60 cycle, 3 phase synchronous motors running at speeds of 720, 1000, 1200, 1440, 1500, 1800, 2400 3000 and 3600 R.P. M.

We also are prepared to furnish 60 cycle single phase synchronous motors for any purpose.

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We can furnish motor-generator sets for sound truck or studio operation to fill your requirements.

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PLEASE MENTION THE INTERNATIONAL PHOTOGRAPHER WHEN CORRESPONDING WITH ADVERTISERS

## NEW PROJECTOR FOR BACKGROUND PROCESS SHOTS

By J. HENRY KRUSE

William Neumann, who has contributed many mechanical improvements to the motion picture industry, has



No. 4—The inventor, William Neumann, and rear view of projector and method of mounting shutter.

invented a special process projector for background projection shots. We have heard very enthusiastic comments on it by the few who have been fortunate enough to see it in operation. The new projector has many interesting improvements which eliminate some of the bad features of this particular and important process.

There have been many contributory factors which have made this process practical and possible, one of which was the increased film speed.

The first mention of the background projection process, according to our records, was printed in the German magazine "Kinotechnick"—1919, No. 2, page 10—which described a stop motion method. Shooting at normal speed was described in the book "Trickfilm," Vol. 2—"Verlaglichtbildbühne," published in Berlin in 1927.

The Fox Film Corporation in 1929 conducted extensive experiments with the view of perfecting this process and making it adaptable to modern production methods. Immediately all major film studios realized its value and set out individually to perfect a like process for their own use. After four years the projection background process has become a vital factor in production, saving thousands of dollars for its users.

While all studios have been reasonably successful, they still had one problem which caused considerable trouble. That was a certain amount of unsteadiness, due to the type of projectors used, often necessitating re-takes.

Not realizing what caused this trouble—the camera, printer, projector and film perforations were successively blamed, when, as a matter of fact the difficulty was found to be irregular perforations; each machine, camera, printer and projector using a different perforation hole, thereby causing lack of register and subsequent unsteady projection.

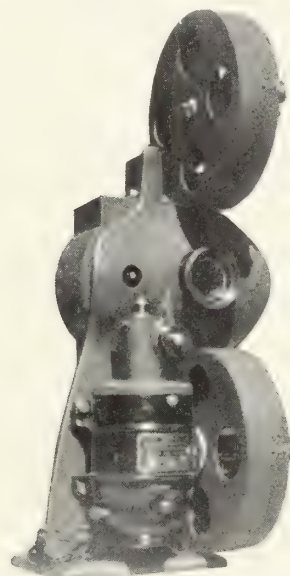
William Neumann was one of the first to realize that this trouble could be overcome by constructing a special projector and using the same perforation holes as the camera and printer.

The improvement was immediately noticed—the picture was steady.

After further experiments Neumann has constructed the very ingenious machine which is herewith illustrated. It is of very compact construction, being only 24 inches high, sturdily and lightly built, and easily portable. It can be used with any type of high intensity arc lamp house.

One of its principal features is the use of the Bell & Howell camera movement, well known for its register perfection.

Auxiliary movements are interchangeable, making it possible to photograph the original scene with either Bell & Howell or Mitchell cameras. Threading the projector

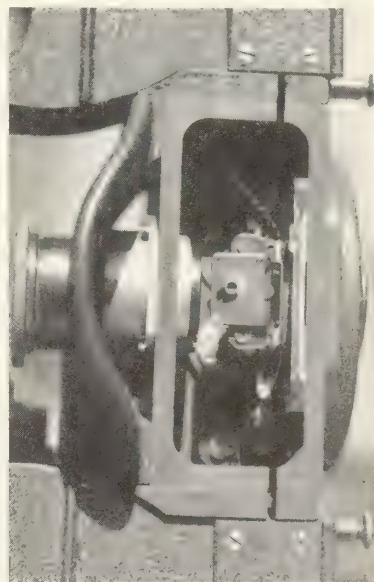


No. 3—Front view of projector showing Western Electric synchronous motor built-in as an integral part.

is speeded up by its unusual simplicity of movement and sprocket arrangement, all parts being readily accessible.

A Western Electric camera motor, with a mechanical synchronizing device, is an integral part of the projector, thereby simplifying the synchronization of projector and camera with a noticeable saving of time. Another important feature is its safety heat factor, all without the aid of either air or a water cooling system.

The writer is of the opinion that the use of this projector will substantially improve the quality of projection background processes.



No. 1—Detail view of background projector showing Bell & Howell movement with film in position.



WHAT'S WHAT!

Published Monthly by J. E. Brulatour, Inc., Distributors

# FULL STEAM AHEAD FOR PRODUCTION

**Majors—Minors—Independents Launching 1933-4 Programs With  
Record Schedules—Many Cameramen Assigned**

—"What is so rare as a day in June?"—when the old phone starts ringing and a voice at the other end wants to know "are you working?"

—Following a heart-breaking period of inactivity, Hollywood is shaking off its dust and rubbing its eyes and awakening to the fact that "we gotta make pictures."

A leading trade paper carries a feature story under the feature head—"Film Famine Brings June Revival Flood."

That was inevitable.

Box offices all over the country have reflected the general up-trend of better business and public confidence. Pictures are better—entertainment value is much higher and the grosses are keeping step with the thermometer.

Producers are wide awake to the situation. They're too smart to allow this increased business to lag. Progressive and alert, they are swinging into a production program on heaviest schedules in three years.

During the lull they have wisely bolstered their story departments and are ready for the gun with a flock of completed scripts which will carry peak production well into the autumn months. There'll be no unnecessary delays for scripts. Directors are assigned. Casts are all set and technical staffs are being assigned right and left. Last week in May brought definite deals to more than a score of first cameramen (AND salary) dates determined for early June.

Discussing the situation with top exec of a major plant, we were told—"We have twenty-six scripts completed and ready to shoot. Last spring we thought we were hitting the ball when at times we had five units shooting film simultaneously but by the last week in June we'll have seven, and perhaps eight or nine units shooting at the same time and while later this may drop to an average of six, it is my belief that we will generally hold this pace in production until late fall. You will be interested in knowing that we have reached an agreement with four of the best cameramen in the business and we are now negotiating with a half dozen others. I will not feel comfortable until I have at least eight men definitely engaged. We hear a lot of chatter about an over-supply of cameramen but certainly we haven't found this to be true now while we're trying to line up our camera crew for next season. After all, you must bear in mind that without cameramen, we can't make pictures."

Another major studio has a set production schedule whereby they expect to have at least eight pictures actually in production by the last week in June. In the past six months the average number of units shooting at one time at this plant has been three.

An executive at still another studio declared—"While we have had no shutdown period this spring, we realize that we must step up our production if we are to successfully compete in the market this fall and winter. Because we have been constantly in production we are not in the same position as some other studios as regards stories. How-

ever, we have added about fifteen writers to our staff during the past two months and we confidently expect to get under way not later than June twenty-fifth when we hope to have nine pictures either in actual production or ready to start. Our program calls for completion of thirty-one pictures between now and December first."

Independents have arranged sale and distribution on an increased scale. Most important move of the month is Monogram (Trem Carr) who has moved bag and baggage to Metropolitan Sound Studios where an enlarged program swings into action with the first week in June.

Other important deals are pending in the ranks of the independents with rumors that one of the most important of the group will shortly take over the Pathe plant in Culver City where a score of productions are anticipated between this time and the close of the year.

The newly formed Twentieth Century Productions (Darryl Zanuck-Joseph Schenck) promises plenty of action at United Artists. On the same lot Samuel Goldwyn will produce his usual splendid program.

Camera!

## UNIVERSAL

GEORGE ROBINSON is shooting that very funny team of ZaZu Pitts and Slim Summerville in "Salt Water." William Wyler is the Director. Al Jones, the Babe Ruth of San Fernando Valley, is operating the camera. Paul Hill is the assistant. Many of the exterior scenes were photographed by Robinson in and around the water front at San Francisco.

Incidentally, JOHN FULTON, in charge of the miniature trick effects and projection background department, went to Frisco to do some of his work on this picture too. His assistant, Bill Heckler, accompanied him.

JACKSON ROSE finished his work at M.G.M. and started the following morning with Universal. He is now shooting "In The Money," a race track picture, starring Lew Ayers—which is being directed by Murray Roth. Dick Fryer is operating the camera Bill Dodds is the assistant.

LEN POWERS has just finished another of the Warren Doane comedies "Gleason's New Deal," being directed by James Horn. Walter Williams assisted Len.

CHARLES STUMAR has been shooting tests for his next assignment here.

JERRY ASH, now the undisputed heavyweight champion since KARL FREUND died to New York, is standing by ready to start.

JOHNNY HICKSON is scheduled to start another serial in a few days, the new version of "The Perils of Pauline."

TED McCORD is doing the second of the Ken Maynard series "The Fiddlin' Baccaro." We had the privilege of sitting in the projection room and seeing a few days' work. Those rocks around Lone Pine have been photographed many times but we'll bet anyone a new straw hat that they have never been more artistically reproduced on the screen.

Joe Novak, the veteran Akeley operator, is associated with Ted; so are John MacBurnie and Bill Charney, as assistants.

## ADMIRAL PICTURES

ARTHUR EDESON has finished "The Big Brain" and hurried back to his Malibu Lake cabin.

NORBERT BRODINE is shooting "Deluge" which promises to have some very unusual photography. Harry Davis is the second cameraman; Johnny Eckart and Bert Eason are the assistants. NED MANN is doing all the miniature and special effects and has with him BILLY WILLIAMS.

## PHYSIOC RETURNS TO CAMERA

LOU PHYSIOC, who has been giving some time and attention to a recently formed commercial laboratory organization, has returned to the camera for C. C. Burr at Educational Studios.

## HALLER TO NEW YORK

ERNEST HALLER has gone to New York City where he will photograph the production "Emperor Jones."

HALLER was negotiating with one of the local major studios at the time the call came for the "Emperor Jones" assignment, and it is expected that he will return here immediately the Eastern production is completed.

## EDDIE CRONJAGER FLITS

EDDIE CRONJAGER, who has been a feature fixture of the RKO camera staff during the past several years, has temporarily departed his home lot in favor of Europe where he will photograph Jeannette McDonald.

CRONJAGER left Hollywood by plane last Tuesday and sailed for Liverpool Saturday aboard the Liner Bremen.

While his present assignment is for but one picture, it is an easy guess that the Britishers will use a lot of high-powered persuasion in an attempt to have Eddie remain with them for additional productions.

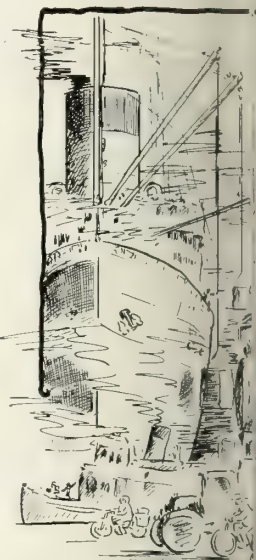
## PARAMOUNT

After several weeks of swishing about the bounding main, VIC (Around the Horn) MILNER has gone into production with Steve Roberts. Picture titled "One Sunday Afternoon." Milner is seconded by Bill Meller and assisted by Guy Roe. P. S.—(Milner has also just purchased a new landgoing chariot called a Ford V8).

Our old friend, GIL WARRENTON, is in production with Norman McCleod shooting "Mama Loves Papa," a comedy drama featuring Wesley Ruggles. Warrenton is seconded by Ernie Lazlo and assisted by Jimmy King.

CHARLES LANG has finished production with Gasnier on "Gambling Ship." Lang was seconded as usual by

"THEY"



Bob Pittack and assisted by Cliff Ser.

LEO TOVER, who seems to be a favorite at both RKO and Paramount, finished production with Ruggles in "College Humor," and has been assigned to Mae West's new picture, "Angel." Hey, hey, you're telling! Tover is generally aided at the RKO by Guy Bennett and Tom Morris.

FARCIOT EDOUARD, the chief of the trick department, has been tioneing in Yosemite and other north and northeast. He returned studio last week.

Paramount has been going very fast for the past month, but is now producing one of the biggest production schedules to be seen here for many months.

## PETERSON ON LOCATION

GUS PETERSON is in Yosemite National Park on location where he is photographing the first of a series of productions being made by Armstrong for Paramount release.

Unit is working out of the Metropolitan Sound Studios.

At the same plant, DWIGHT REN cranked off a couple of comedies during the past month.

## RKO

ROY HUNT is photographing "Double Harness" which is being directed by John Cromwell. The camera we find Eddie Pyle—assistant is Jimmy Daly.

HENRY CRONJAGER just



in Cooperation with The International Photographer

WHO'S WHO!

## ELLING"

### WARNER'S NEW CAMERA CHIEF

CHARLIE GLOUNER, who has been the operating and contact executive for cameramen at Universal Studios for many years and who resigned that post with the suspension of production at Universal earlier this spring, has been appointed by William Koenig as executive in charge of the camera department of the Warner-First National Studios at Burbank.

GLOUNER entered into his new duties late in May, and is making several changes in the loading rooms and film offices preparatory to start of the Warner production program, which is scheduled to get under way around June 10th to 15th.

GLOUNER has a host of friends in the members of 659, all of whom will be very glad to learn of his appointment and also give him a helping hand to the success of his department.

the picture business for a while. It was easy to forget too while quail hunting, fishing, and swimming in Mexico, but now he is back at RKO shooting "The Death Watch," a nice photographic assignment which is being directed by Irving Pichel. Handling the camera is Joe Biroc and Charley (new papa) Bohny is the assistant.

J. O. TAYLOR and EDDIE LINDEN remain behind closed doors on another of their animated epics—"King Kong, Jr." who will cavort in "Jam-boree."

VERNE WALKER, in charge of the projection background department, is another of the camera clan who now owns a boat—what a fleet we could get together.

### COLUMBIA

BENNIE KLINE is shooting "The Wrecker," a story concerning—as the title implies—the happenings of a building wrecking man, played by Jack Holt—the love interest by Genevieve Tobin. Al Rogell is directing. F. M. Browne continues to operate the camera for Ben while Jack Russell keeps pretty busy as assistant.

JOE WALKER and FRANK CAPRA are together, as usual, on "Madame La Gimp" or possibly they will call it "Apple Annie." May Robson and Warren Williams play the leading roles. Andre Barlatier is the operating cameraman—while Mike Walsh and George Kelley diligently assist.

TEDDY TETZLAFF has not been terribly busy at the studio lately, but he has been busy building a new hillside home.

RALPH STAUB, the writer, producer-director cameraman, is now directing a two-reel comedy entitled "Design for Leaving." BYRON HASKINS is the first cameraman. Jack Kauffman and Jim Goss are the assistants.

Byron has kept busy since the Warner shut-down. He also photographed a picture at Educational for Duncan Mansfield called "Strings."

### M.G.M.

LEN SMITH, the mighty slugger of the fairways, has departed for a two-months sojourn in Alaska. Len took along Paul Vogel, Al Schwings and Bill Fox, all to help him boost the cameras over the frozen wastes.

CLYDE DE VINNA, the No. 1 traveling man of the M.G.M. Studio, is in Louisiana splashing about in the marshes and bayous making scenes for "Louisiana Lou," a forthcoming Browning picture. Bill Snyder, Bob Hoak and Cecil Wright are helping Clyde grind out the Eastman grayback and fight off the ever present and justly famous Louisiana mosquitoes.

## STEINCAMP OFFERS PROCESS SERVICE

### Former Fox Camera Executive Completes Organization—Equipment Specially Constructed

WILLIAM STEINCAMP, for many years executive in the camera department at the Fox Studios, has stepped out in his own business venture with prospects of rendering a valuable service to the producers, and at the same time building up a business which should bring him good financial returns.

New company carries the tag Syncro Composite Process with technical and administrative headquarters at the Metropolitan Sound Studios in Hollywood.

Service offered embraces composite projection shots and composite stereoscopic shots.

It is the plan of the new company to cater particularly to the independent producers who do not maintain their own process departments.

Special equipment has been constructed and assembled under the personal supervision of George T. Teague, chief of the Technical Division, who was also formerly identified with the Trick and Effects Department of the Fox Studios. Equipment is constructed for rock steady projection, with the base for projector head, lamp, etc., of special design to permit maximum efficiency toward this end.

A special translucent screen of cellulose acetate composition is mounted in his specially designed wood frame.

In discussing his new company and its service, Mr. Steincamp said:

"It is very evident that there is a large field among the independents for this type of service. It will be our en-

deavor to deliver to the producer a quality product at a reasonable price which will permit its use broadly. Once the producer learns what he can do with this process and what we can do for him, and that it is available for him in top quality, at top speed, and at this minimum cost, we believe he will take advantage of its possibilities and we feel confident that, with our long years of experience in this business and our desire and intention of building and maintaining a permanent service of this type, we shall meet the success at which we are pointing."

"Because of our experience in this line of work, we offer our services in consultation with the producer without obligation implied or otherwise. In other words, the producer can tell us what he wants, what he hopes to obtain, and we will gladly co-operate with him in building his plans, and then immediately we shall be able to tell him whether it can be done to everybody's satisfaction, and exactly how much it will cost. We believe that not only we, but the producers as well, will profit through the good experience which has guided us in building our equipment with which we hope to enhance the visual and entertainment quality of many productions where, heretofore, this service was not available at a low cost."

We unite with others in the circle of friends of Mr. Steincamp and Mr. Teague in giving them a friendly pat on the back and wishing them good luck.

OLLIE MARSH continues production on "Nite Flite" with Clarence Brown. Marsh, as usual, is seconded by Eddie Fitzgerald and assisted by Kyme Meade.

CHARLES MARSHALL, who has done a lot of very fine work for M.G.M. on many of their aerial productions, has been added to the staff on "Nite Flite." Marshall has been in Denver, Colorado, for several weeks making some very interesting cloud shots for the production.

HAL ROSSON, one of the finest photographers that ever played golf, is photographing "Hold Your Man" being directed by Sam Wood. Rossos is seconded by that very popular boy, Les White, who has so ably assisted such men as Garmes and June in many of their efforts. The assistant is Harry Parkins, which rounds out a very able camera crew.

RAY JUNE has finished his work on "When Ladies Meet", and has been assigned to a new production which goes into work as we go to press. (According to all advices, the photography on "When Ladies Meet" is outstanding).

### FOX

BOB PLANCK is working on his second picture for Wurtzel, "Life In The Raw," directed by Lou King—Planck clicking well with the Wurtzel organization. He is seconded by A. Arling and assisted by R. Sherman.

GEORGE SCHNEIDERMAN, who has been receiving many compliments for his work in "Pilgrimage" is photographing "Arizona To Broadway," a

Tinling picture starring Jimmie Dunn and Joan Bennett. Schneiderman has Curt Feters, J. Gordon and Lou Kunkel on his staff.

ARTIE MILLER is in production with McFadden on "The Man Who Dared." Miller was incapacitated for a few days but is back on the job now. He got caught between the camera bungalow and the set and lost one of his ribs. Artie is seconded by Joe La Shelle and assisted by Bill Abbott and Milton Gold.

ERNIE PALMER continues production with Frank Lloyd on "Berkeley Square" pronounced in the usual inimitable English manner, "Barclay." Palmer's crew consists of Dave Regan and Joe Badaracco at the cameras, and Bud Manners and Jack Epstein holding the slates.

HAL MOHR has leaped into production with Dieterle on a picture entitled "The Devil in Love." Mohr's staff includes Sol Halperin, Joe McDonald, R. Surtees, and E. Collins.

JAMES WONG HOWE, Bill Howard's favorite cameraman, has finished "Power And Glory" and is standing by for a new assignment.

JOHNNY SEITZ is preparing to shoot the new Janet Gaynor picture which will be directed by Harry Lachman. Seitz has been in Monterey, and other points north, looking over locations.

### PERRY UP AGAIN

HARRY PERRY, the aerial cameraman, did quite a bit of cloud shooting for the RKO picture "Flying Circus." He was assisted by Rod Tolmie.



Dix in "The Public Be Eslick was the second man to be the assistant.

SURACA has started a picture favorite director, Otto and Line Hunters," a story cameraman's experiences. very interesting. The very efficient Harry Wild is the and Willie Barth is assistant.

KENZIE just finished an "Liner" comedy which was George Stevens. Joe Biroc camera and George Diskant of the assisting.

modore" CHARLEY w. Yep, he has gone and t—so having just finished Bennett in "A Bed of nt out on the ocean for a s before starting with Bill aming Gold" which he is before the next Constance e. Associated with Roshier, ank Redman at second and assisting.

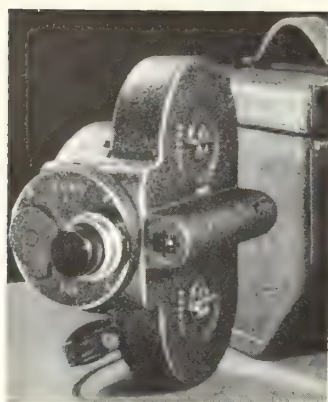
ENNON has finished his "ning Glory" with the dy Hepburn, and is standing xt assignment. Associated re Russ Metty, operating t Bert solos now. After his disappeared and his t a loss to understand the Charley Burke was the as he picture—not on the ally, Bert has passed with d is now a regular private been ok'd by the Depart- erence.

NDRIOT finished "Bond- and then forgot all about



**ALL-PURPOSE PERSONAL MOTION CAMERA**

An all-purpose personal movie camera at a moderate price has just been announced by Bell & Howell. This camera, the Filmo 70-F, has



four indicated film speeds and is equipped with a Cooke one-inch F.1.5 lens and a 216 degree shutter, giving it six and one-half times the speed of ordinary F.1.5 cameras. The F.1.5 lens is fine for Kodacolor, also, which means color pictures without additional lens expense.

The four indicated speeds are half (8), normal (16), sound (24), and super (64) speed. This is the first time that super speed has been attainable in combination

with other speeds in any Filmo camera, except the turret head model. This will be particularly advantageous for golfers who desire to make slow-motion pictures of their game with a moderate priced camera which they can also use for ordinary movie making. The super speed feature will be just the thing for football, baseball, tennis, and other sports, too, and for taking industrial pictures, as, for example, time and motion study shots.

The 24 speed is for films which are later to be syn-

chronized with sound, and for pams and scenes from moving automobiles and trains.

The high speed of the lens and shutter combination permits taking pictures indoors with a minimum of light, or outdoors at super speed even in poor light. Of course, the F.1.5 lens is instantly interchangeable with other special purpose lenses.

**EVEN IN AFRICA**

The gentleman shown here, absorbed, apparently, in the perusal of a copy of THE INTERNATIONAL PHOTOGRAPHER, is our English brother, J. E. Rogers. The interested gallery in the background suggests that Mr. Rogers is somewhere in the neighborhood of the Gold Coast, West Africa. In fact, he is at Oyoko, wherever that is. He recently subscribed for THE INTERNATIONAL PHOTOGRAPHER for two years. Thanks, Mr. Rogers!

# THE NEUMANN PROCESS PROJECTOR

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*Absolutely Steady  
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Attachable to any Lamp-House*

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## A CENTURY OF PROGRESS

Activity in the Hollywood Studio at A Century of Progress—Chicago's 1933 World's Fair, is to be continuous every day of the Fair from 10 o'clock in the morning until late into the night.

Announcement was made recently that RCA Institutes, Inc., will take charge of the sound motion picture studio being erected in the Hollywood development at the south end of Northerly Island. Talking pictures, news-reels and full length screen plays will be filmed.

J. D. Keener, sound engineer, will be technical director of the World's Fair's Hollywood, and will have the assistance of graduates and students of the RCA Institutes. Students will be assigned in regular shifts certain days each week to the Hollywood studio.

Burton Holmes Films, Inc., official World's Fair motion picture photographers, will install and operate the

latest sound recording equipment of the Radio Corporation of America in the Hollywood studio.

Among the productions to be filmed on the World's Fair movie lot will be a series of short subjects to be developed under the direction of Miss Dorothy Deere of Cinegram Productions. These will have a Chicago background, some of them using the Exposition grounds as locale.

During the summer and fall, news reels will make Hollywood their headquarters for the filming of various celebrities who will visit the Exposition.

The studio will have a sixty foot stage, separated from the audience by a glass partition through which the action, filming and sound recording work can be witnessed. Surrounding the studio will be a number of outdoor sets, where amateurs may bring their own cameras and "shoot" scenes of their own selection.



Electricity's wizardry will be unfolded in this semi-circular building on Northerly Island at "A Century of Progress"—Chicago's great international exposition. Embellished with hanging gardens, electric cascades and fountains, gilded pylons and paved terraces the Electrical Building is the last word in modern architectural fantasy. It

will house exhibits portraying the generation, distribution and utilization of electricity. In the Communications Building, adjoining it on the north, will be shown exhibits of telephone and telegraphic communication. Raymond Hood of New York is the architect.

### BEN REYNOLDS

Ben Reynolds is chief cameraman on Paramount's "Man of the Forest," with Henry Hathaway directing. The greater part of this picture is to be made on location. Harry Merland is operative cameraman with Robert Rhea and Russell Harlan assisting. Reynolds will be remembered as photographing some of the greatest pictures to reach the screen—"Foolish Wives," "Greed," and many others. This team of Hathaway-Reynolds will no doubt turn out a real picture.

### "LURE OF THE LAKE"

A Multi-color scenic picture entitled, "Lure of the Lake," depicting the natural charms of the Lake of the Ozarks, in Missouri, is being scored with "High Fidelity" sound at the 411 Fifth Avenue recording studios of the RCA Victor Company. The musical synchronization is being done by Erno Rapee and his orchestra, and the explanatory remarks by Milton Cross, noted radio announcer. "Lure of the Lake" was supervised and directed by Alvin Wyckoff.



# TEK-NIK-TOWNE

## E. O. RETURNS (?)

Edward O. Blackburn, West Coast manager of J. E. Brulatour, Inc., distributors of Eastman film, has returned from a hunting trip into the northwest.

## WESTERN ELECTRIC INSTALLS

Western Electric has installed a wide range recording system in the Eastern Sound Studios, New York, according to T. Keith Glennan, general manager.

## A NEW LEICA

Cliff Thomas of the Hollywood Camera Exchange is showing a new chromium Leica camera. It is a beauty.

## HYMENEAL

Mr. and Mrs. Harry Merland were married at Agua Caliente, May 14, 1933. The groom is a member of Virgil Miller's model camera department at Paramount. The bride, Miss Mildred Curry, was for some time employed in the San Jose office of the Fox Company.

## "SHOOT THE WORKS"

Carl Freund, whose exceptional ability as a cameraman, has been recognized throughout the world, is in New York to direct "Shoot the Works," in association with Monty Brice. Stanley Bergerman, who has made an excellent reputation as a supervisor, will handle this production.

## IN COLOR

Duke Green, that well known glob-trotting, Technicolor cameraman, is on his way to the Island of Bali with Marquis de la Falaise de la Coudray, known in Hollywood as "Hank," who will direct, and Gaston Glass, assistant director and business manager.

This is the first time a Technicolor camera has been carried into the South Seas and with the new improved process the results should be magnificent. Here is one subject where Technicolor will excel, that of picturing the natives in their colorful surroundings.

## BY NORMAN WILKY, AGE 12

"King Kong" chased "Goon-Goon" down "42nd Street" where "Tarzan" put "King Kong" into "The Big Cage." "Goon-Goon" saw her "Lawyer Man," who was a "Mind Reader." They had "Dinner at Eight" when he got "Strictly Personal," so "She Done Him Wrong." She went back to "Tarzan," who said, "Be Mine Tonight," and then "They Had to Get Married." Then came "The Blessed Event," after which they told "A Bedtime Story." "Blondie Johnson" looked "Through the Keyhole" and saw "Chandu, the Magician" getting "Strictly Personal" with "Frisco Jenny." He said, "Be Mine Tonight," but she said that would be "The Crime of the Century," so they had "Dinner at Eight," which cost him a "Silver Dollar."

## PROMOTED

Recently promoted to head all shorts produced on the Columbia pictures lot, Ralph Staub, director-producer of Screen Snapshots, is assembling his first comedy unit, which will consist of a comedy writer, dialog writer, gagmen and trick cameraman. Each two-reeler will be headed by a cast of all-star stage and screen players. The best talent available will be used in an effort to produce something new along comedy lines. Harry Cohn, president of Columbia Pictures Corporation, made the promotion of Staub because of the latter's seven years' fine record at the Columbia West Coast Studios.

## MAXFACO

An important department of the Max Factor Company is that of hair-lace pieces developed by and under the supervision of Percy and Ernest Westmore. Extraordinary results have been attained by their use. The striking feature of these hair pieces is their naturalness. Their use enables the cameraman to give full scope to his artistry as he is not handicapped by any artificial appearing hair-dress.

Three recent outstanding productions in which these hair pieces were used are "Voltaire," Warner First National production; "Berkeley Square," Jesse L. Lasky production for Fox, and "The American," a Sol Wurtzel production for Fox.

## STEINMAN

A great portion of the success of the United States Navy's aerial survey of southeastern Alaska has been attributed to the special developing outfits constructed for the detachment by R. P. Steinman, of Los Angeles. The Steinman System proved highly satisfactory for the handling of the aerial mapping film and greatly expedited the turning out of the developed negatives. No loss of film or mishaps of any nature were experienced in the development of the film and the department for which the survey was made saw the Steinman developing outfits in use and expressed their enthusiastic satisfaction as to the results obtained.

## SCREEN CRAFT PROD.

Bernard B. Ray, member of INTERNATIONAL PHOTOGRAPHERS, Hollywood, has organized the Screen Craft Productions, with Al Alt as supervisor and Sammy Katzman as production manager, to produce a series of all-star features.

The first picture, "His Private Secretary," was photographed by Abe Schultz, pioneer cinematographer, seconded by J. Henry Kruse, International news-hound. Phil Whitman, ex-cameraman, directed. Camera knowledge was abundant and the result is a clean cut, entertaining production.

"Benny" is not without knowledge of the perils of the game. He is perhaps the youngest pioneer of them all. His experience dates back to D. W. Griffith's Biograph Company in 1911, as laboratory man, 14 years of age. He has been through the gamut of cutting, editing, photographing, directing—and now producing.

# Allied Industries of the Cinema In Hollywood and the Men Who Operate Them

## GREEN PROJECTION SCREEN

Ray Smallwood, of the United Process Shots, claims to have the only green toned, transparent projection screen, whereby direct complimentary front light can be used on foreground objects without casting any photographable shadow on the screen. Mr. Smallwood asserts that this enables the cameraman to have full liberty in lighting the foreground action, and furthermore, that an actor can be placed against the screen and still be fully illuminated.

## FILTER EXPERT

George Scheibe, well known filter expert, has devised a special graduated diffusing screen. It is a screen approximately 8 inches long and the standard widths; graduated from clear glass on one end to diffused on the other end.

By using this special diffuser it is possible, in making a dolly shot, to start with a large head close-up, using the proper diffusion and as the dolly is drawn back for a full set shot the special diffuser is slid by the lens, permitting a sharp clear negative of the long shot or vice versa.

By using this same idea Mr. Scheibe has also made a fog filter and a daylight-to-night effect filter, used in the same way.

## THE LARGEST ON EARTH

Sidney Saunders, who originated the Cellulose Screen now being successfully used for projection background work by R-K-O, M-G-M and Fox, is now making the largest screen of this type in the world. It measures 24 by 34 feet. The weight of this screen will be approximately 80 pounds.

Mr. Saunders has discovered certain ingredients which prevent the Cellulose Screen from drying out and cracking, thus insuring longer life. Tests have shown that by the use of this screen greater brilliancy and definition are attained. The fact that the Cellulose Screen is not subject to breaking, as is glass, should certainly recommend it from an economic point of view if from no other.

In the making of these screens Steve Rez has been associated with Sidney Saunders.

## A. OF M. P. A. & S.

Enrollment of 28 stars and featured players in the Actors Branch of the Academy during the past month has brought the total membership of the Academy to nearly a thousand and firmly established the actors as the largest of five creative branches who make up the organization. The current membership list of the Academy shows the 958 total membership grouped approximately as follows: 200 Stars and Featured Players, 100 Free Lance and Supporting Players, 100 Directors, 140 Production Executives, 120 Screen Writers, 55 Assistant Directors, 40 Art Directors, 80 Sound Technicians, 50 First Cinematographers and Laboratory Technicians, 15 Film Editors, 30 Equipment and Theatre Technical Executives, and 25 Special Members.

## SHORT ENDS

Eleven years ago Fred C. Dawes pioneered the selling of short ends. He has recently opened new headquarters at 1442 Beachwood Drive. All film handled by him is carefully tested before it is sold.

## SCREEN MAGIC

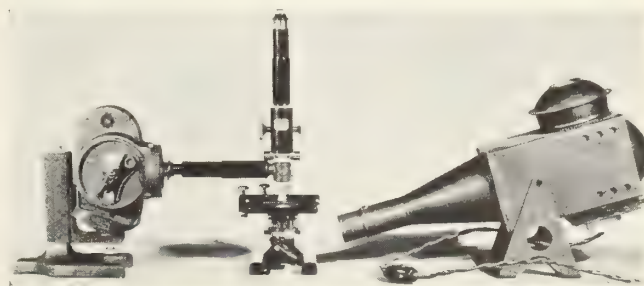
Ray Mercer has achieved by a new process the difficult art of matching the original negative in duplication; also he has created several new effects that have never been used to date. Mercer's patent machines for making fades by after treatment, making dissolves and special effects and duping stock scenes for effects and miniatures, are the only ones of their kind in the world.

Also he has perfected a revolving camera stand for rocking and upside down scenes. This can be obtained from him at any time.

And in addition to all this, Mr. Mercer has made a lens to cover 36 images at one time, giving full images of one subject 36 times on the screen, affording dizzy effects and visions shots of all kinds.

## MICROSCOPIC PICTURES

The making of microscopic motion pictures has been greatly simplified by an attachment developed for use with a Bell & Howell 16 mm. motion picture camera and any ordinary microscope. The device consists of a horizontal tube mounting a split-beam prism which deflects about 90 per cent of the available photographic light in a parallel ray, into the regular standard one-inch F.3.5 camera lens, which remains set at infinity. The remainder of the light passes up the microscope tube, set at 160 mm., over which fits a finder-sleeve fitted with a mask which shows the user the limits of the field being photographed by the camera. This reduced amount of light reaching the eye makes it easy to observe the object that is being photographed and to keep it in sharp focus by means of the fine adjustment of the microscope itself. The third part of the accessory set-up is an adjustable camera stand that raises and lowers the camera to the exact height made necessary by the particular job under the microscope objective. It is heavy enough to hold the camera rigid and parallel to the microscope tube. Adjustment is greatly simplified and results equal those obtained by much more extensive apparatus, especially at the lower powers.



Complete cine microscopy outfit set up for operation. Note split beam prism fitted between microscope objective and the main tube with horizontal tube to camera.



# 2500 PIX A SECOND

A special telegram from New York to Hearst papers dated May 20, adds the following interesting chapter to the technical history of motion picture photography. The message carries no names of the producers and inventors of this new camera:

NEW YORK, May 20.—A portable superspeed camera, which takes 2500 pictures a second and can photograph objects moving with the rapidity of a cannon projectile, has been demonstrated here.

The camera, operating at 125 times the speed of a normal motion picture camera, has no shutter and the film runs continuously instead of being stopped for each "frame." One hundred feet of film, which usually runs in four minutes, speeds through this camera in two and a half seconds.

## *Works in Any Light*

It differs from anything previously made by taking its pictures in ordinary light, either daylight or artificial. Lights flashing hundreds of thousands of times a second have been the only means of taking such pictures heretofore.

An electric timer is part of the apparatus, and the time used on the object photographed is recorded in minutes, seconds and hundredths of seconds on the same strip of film as the pictures.

Motion pictures taken with the new development prove conclusively that the eye is faster than the hand. They showed the hand is not removed from a burning cigarette until 26-100ths of a seconds after the cigaret begins to burn, whereas the eye is closed 13-100ths of a second after a brilliant light is flashed before it.

They showed also that a wing requires 11-100ths of a second.

## *Reveals Machine Defects*

In practical application the timing system is said to provide an entirely new opportunity for the study of extreme speed motions, such as the valve spring and tappet mechanism in gasoline engines. The flexure of an airplane propeller at full speed may be shown and studied.

The slightest aberration in machine operation can thus be shown and defects in newly designed machines caught at the beginning, it is claimed.

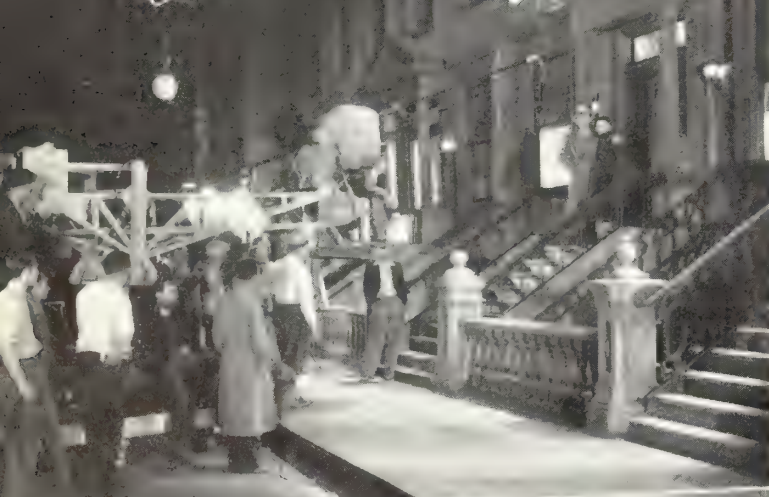
## *Reading from top to bottom:*

Showing the new silent Bell & Howell camera on production at RKO studio. The camera blimp in the foreground shows the method now universally used in all studios to silence the camera noise. A. S. Howell, chief engineer of the Bell & Howell Company, and Joseph Dubray, manager of Hollywood Bell & Howell plant, in foreground. Picture shows Edward Cronjager, chief cameraman; Joseph Biroc, operative cameraman; Willard Barth, assistant; Paul Bristol and Tom East, electricians; Earl Wolcott and Harold Stine, sound men.

"Here's how I'd do it"—and Lowell Sherman gives Mae West his version of how a scene for her first Paramount starring picture, "She Done Him Wrong," should be handled. Charles Lang, chief cameraman; stills, Elwood Bredell.

"Uptown New York"—at California Tiffany Studios. This view shows how camera crane is used, doing away with the time it takes to set up parallels, etc. Those in the picture are Leon Waycoff and Shirley Gray (on steps); Victor Schertzinger, director; Norbert Brodine, cameraman, on crane; Johnny Echard, assistant; Joe Benson, grip, operating crane; Don Donaldson, gaffer; Alf Burton, motor man (sound); Gilbert Pollack, "mike" man; Noel Mason, assistant director; Charles Henley, head prop; Bert Eason, assistant cameraman. Still by Roman Freulich.

Synthetic Fog—Ernest Schoedsack (in chair) directs Leslie Banks and Steve Clemente in a scene from "The Most Dangerous Game," new RKO picture. Arranged through the courtesy of Perry Leiber, head of RKO publicity. This unusual still by Gaston Longet shows action.





# WHAT'S DOING ABROAD

By PHIL TANNURA

The sun beat its welcome rays on London during the month of March for the high percentage of 156 hours—nothing like that has happened since 1907, and maybe the natives haven't raved about it! Unknowns become acquainted, old honky-tonks in the village didn't hesitate a minute to tell you about it, the girls moon about it to their sweeties—all in all there was a hot time for all.

Did the English producers make hay while the sun was shining? Of course not—they sat in their well known leather chairs wishing for an exterior story. They got one in the rainy season and tried to put it over in the studio. Not only Americans yearn for the English countryside, but the natives themselves cry for it. A recent American picture photographed real English scenery with more realism than they can get on the actual location.

With all this sunshine and lull in production I scooted off to see some of the lovely scenery and old-time castles. Hampton Court won the toss-up for my presence—the castle with a thousand chimneys, the largest of royal palaces in England, built of red brick and aged to the Hollywood degree, bounded on every side but one by the Thames River.

It has over 900 apartments. Every archway, every nook, every corner is a cameraman's delight for composition. The old vines are a picture to look at. As you enter the trophy room with all its guns and swords your eyes pop out—rooms occupied by past kings are quite a treat; but the private guest room—what thoughts run through your head as you visualize yourself in that period. Many damsels came through those doors and many went out to the gallows.

After feasting my eyes on all the old paintings and tapestry I was in a hurry to see the wine cellar. Bootleggers and modern liquor dealers had nothing on the old boys of the past. What a grand time the six-fifty-

*(Continued on Page 37)*

Reading from top to bottom: Work is play—or so it seems—for here we have Alice White, as petite and vivacious as ever, doing a scene with C. Aubrey Smith in Paramount's "Luxury Liner." That's Director Lothar Mendes sitting by the camera. First cameraman, Victor Milner; operative cameraman, Bill Mellor; assistant, Guy Roe; stills, William Thomas.

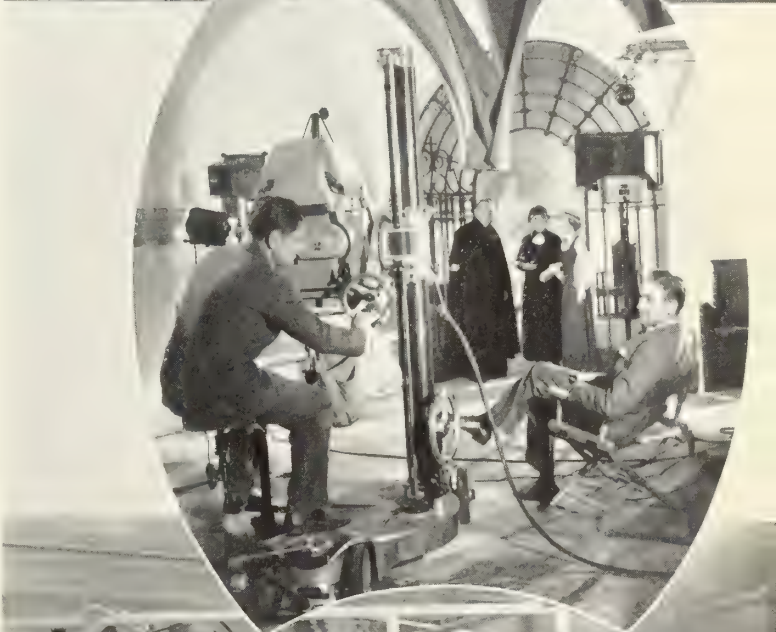
Bill Daniels explains the rotoambulator to Victor Fleming on "The White Sister" set, while Edward Arnold, Louise C. Hale and Helen Hayes look on from a distance. This new type of camera carriage is meeting with considerable success on the M-G-M lot.

Behind the Scenes. This Goldberg-like contraption was built especially for use in Mary Pickford's new United Artists picture, "Secrets," to film what is known as a "traveling shot." A close-up in motion had to be made of Mary Pickford waltzing with Herbert Evans, so the camera was mounted on a rubber-tired platform on which Miss Pickford and Evans danced. A special scaffolding was built to hold lights, one of which can be seen above and behind Mr. Evans. Also note the "nigger" or black shield which prevents this light shining in the lens of the camera. Frank Borzage, director, perches on the scaffolding back of this lamp. Behind Borzage is the sound man with the microphone tied to a bamboo pole, which he steadies above the dancers, so as to properly record their voices. Kneeling near Miss Pickford on the platform is Ray June, chief cameraman, studying the scene through a blue glass to make sure of the proper lighting. On the floor behind Lord Hurley (Evans) are other players dancing as this strange conveyance is wheeled slowly along by the "grips." Charles Cline, "head grip," is steering, W. J. McClellan, "Gaffer" (in light trousers and leather jacket) leans forward back of grip on right front wheel, studying his lights. Behind him is his "juicer" crew.

"Morning Glory"—Director Lowell Sherman; star, Kathleen Hepburn; principal player, Doug Fairbanks, Jr.; Adolpe Menjou.

First cameraman, Bert Glennon; operative cameraman, Russ Metty; assistant, Charles Burke; stills, Oliver Sigurdson.

A good close-up of the United Artists camera crane showing the detail of control by the camera operator.





# AUDIO DYNAMICS

DOES THE SLOGAN "CUT WASTE FIRST"  
FIND ITS ANSWER HERE?

By **ROBERT LOTHAR KENDALL**

(President, Kendall & Dasseville, Inc.)

How often, in the dear old days when A. T. and T. was above two hundred and even the poor man could nonchalantly throw a goldfish to his cat, have you peered through one of your observation ports and remarked to your fellow-projectionist: "See them four balcony front rows? Packed solid! My week's wages, kid!"

But in these more careful times, when the same house is playing to two-bit tops, your boss takes a good hard look at every expense to be able to give his patrons "the best show in town" and still refrain from dipping his pen into vermillion.

The time was when he laid twenty-four bucks on the line for p. e. cell instead of the price of an ordinary tube, little knowing that its actual manufacturing cost was less than a dollar!

Those were the days the equipment manufacturers' service engineers were actually being paid to make weekly sales calls and load up the "spare" cabinet with "essential" parts and gadgets no end.

All this is now changed. The watchword throughout the entire theatre plant now is: "Cut Waste First!"

Most of this waste curtailment shouting is directed at your booth. You are instructed to burn your carbons shorter, keep you cement covered, take care of your mirrors and condensers, kill your exciter when the projector is idle, rack your empty house reels to prevent damage and get the last possible hour's duty from every cell and tube.

Ironically enough, this also carries a joker. That joker is to keep a perfect picture on the sheet at all times and deliver maximum sound performance to every seated patron.

Granted, you are in the booth and have only the monitor to judge your sound by. If you deliver the best that is in the equipment to the stage speakers you have performed your duty. The rest? Well, that's up to your boss. He's responsible for the sound in the auditorium. If you follow his "one up" and "two down" signals faithfully he can ask no more of you.

If you happen to be comparatively a newcomer in

your profession you've probably read up a great deal on recording technique and a single glance at your film as you receive it for the day's run shows you whether or not your show is going to be a "smooth" one or if you can expect to be set crazy with buzzer signals during the run.

"It's in the film," is a poor excuse, not only from you, but also from the exhibitor when patrons squawk loud and long.

Every smart exhibitor knows that his present stage set-up is inadequate to accommodate "wide-range," "highest fidelity" and other recording improvements.

Heretofore, the universal "cure" for all sound and acoustic ailments was to "pad" the house. This form of "treatment" was, is and always will be an expensive and illogical procedure, since, it is in 95 per cent of the cases absolutely unnecessary and in many cases actually harmful in its deadening qualities in those sections of a house where added brilliance is badly needed.

The exhibition end of motion pictures, like most industries, is now going through a period of stagnation and the quicker it "snaps out of it," the better it will be for all of us who depend upon it for our livelihood.

Sound today is just as important as it was five years ago and the public has become more critical of its performance. The exhibitor has to "deliver" or lose his patrons to his opposition.

Since "padding" is not his answer to all his sound troubles, he must look about and see what his fellow-exhibitors are doing. Obviously, the equipment manufacturers' advice and recommendations (those still in the "padding" trance) are of little value to him. He must call in specialists, men who have devoted years to study and research in one particular field, that of acoustics in relation to projected sound, now known as the study and application of Audio-Dynamics, as a means of immediate and adequate relief.

True, with several thousand men walking the streets and more being let out every day, apparently the woods are full of acoustic "experts," ready and willing to extract the dollars from the pockets of gullible exhibitors.


Once the idea of improving his sound has presented itself, the really smart exhibitor checks up to make fairly certain, if not definite, that the proposed service will actually perform to his entire satisfaction.

These seven checking points should constitute his buying policy:

- "Is it better than 'padding'?"
- "Is it necessary in my house?"
- "Is it beneficial?"
- "Is it practical?"
- "Is it desirable?"
- "Is it economical?"
- "Is it attractive from a box-office standpoint?"

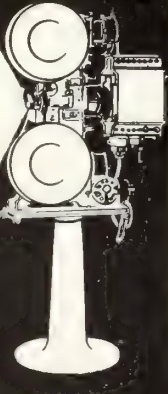
If the proposed service can yield affirmative answers to this analysis, the exhibitor should be ready and willing to sign on the dotted line before the mad rush begins and he is forced to wait his turn like he was five years ago to wire his house with the best equipment available.

The author trusts that the above remarks will not cause offense to those in the industry who fear a pen "spanking," but will tend to drive home the fact that in this great business, game, adventure or whatever it is, nothing stands still—"he who fails to progress today is forgotten tomorrow."

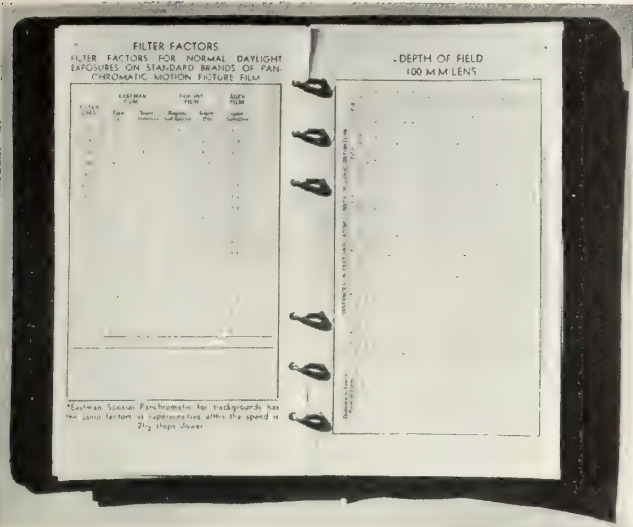


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This is the third installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westenberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's

# BOOK of

# TABLES

By FRED WESTERBERG

There are several more installments to come, concluding with the November issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 33; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 33 and 34. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index.

The accompanying cut is of a Lefax cover. It may be purchased from dealers at 75 cents.

5

18

ANGLE OF VIEW

35 mm. FILM

ANGLE OF VIEW AND SIZE OF FIELD EMBRACED

BY LENSES OF VARIOUS FOCAL LENGTHS.

Distance in Feet to Subject	ANGLE OF VIEW WHEN FOCUSED AT INFINITY							
	35 mm. Lens		40 mm. Lens		50 mm. Lens		75 mm. Lens	
	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle
	25.8°	35.0°	22.7°	30.8°	18.3°	25.0°	12.2°	16.7°
Height and Width of Subject in Feet included in Picture								
1	.41 by .56	.35 by .48	.27 by .37	.16 by .22				
2	.86 by 1.19	.75 by 1.04	.60 by .82	.38 by .52				
3	1.34 by 1.84	1.16 by 1.60	.92 by 1.26	.59 by .81				
4	1.80 by 2.48	1.55 by 2.14	1.23 by 1.70	.80 by 1.10				
5	2.3 by 3.1	2.0 by 2.7	1.5 by 2.1	1.0 by 1.4				
6	2.8 by 3.8	2.4 by 3.3	1.9 by 2.6	1.2 by 1.7				
7	3.2 by 4.4	2.8 by 3.8	2.3 by 3.1	1.5 by 2.0				
8	3.7 by 5.0	3.2 by 4.4	2.6 by 3.6	1.7 by 2.3				
9	4.2 by 5.7	3.6 by 5.0	2.9 by 4.0	1.9 by 2.6				
10	4.6 by 6.3	4.0 by 5.5	3.2 by 4.4	2.1 by 2.9				
11	5.0 by 6.9	4.4 by 6.1	3.5 by 4.8	2.3 by 3.2				
12	5.5 by 7.6	4.8 by 6.6	3.8 by 5.3	2.5 by 3.5				
13	6.0 by 8.2	5.2 by 7.1	4.2 by 5.7	2.8 by 3.8				
14	6.4 by 8.8	5.6 by 7.7	4.5 by 6.2	3.0 by 4.1				
15	6.9 by 9.5	6.0 by 8.2	4.8 by 6.6	3.2 by 4.3				
16	7.3 by 10.0	6.4 by 8.8	5.2 by 7.1	3.4 by 4.6				
17	7.8 by 10.7	6.8 by 9.4	5.5 by 7.5	3.6 by 4.9				
18	8.2 by 11.4	7.2 by 10.0	5.8 by 8.0	3.8 by 5.2				
19	8.7 by 12.0	7.6 by 10.5	6.1 by 8.4	4.0 by 5.5				
20	9.2 by 12.6	8.0 by 11.0	6.4 by 8.8	4.2 by 5.8				
25	11.4 by 15.8	10.0 by 13.7	8.0 by 11.0	5.3 by 7.3				
30	13.7 by 19.0	12.0 by 16.5	9.6 by 13.2	6.3 by 8.7				
35	16.0 by 22.0	14.0 by 19.2	11.2 by 15.4	7.2 by 10.0				
40	18.4 by 25.2	16.0 by 22.0	12.8 by 17.7	8.4 by 11.6				
45	20.7 by 28.5	18.0 by 24.7	14.6 by 20.0	9.4 by 13.0				
50	23.0 by 31.5	20.0 by 27.4	16.0 by 22.0	10.6 by 14.5				
60	27.5 by 38.0	24.0 by 33.0	19.0 by 26.0	12.6 by 17.4				
70	32.0 by 44.0	28.0 by 38.0	22.5 by 31.0	15.0 by 20.5				
80	37.0 by 50.5	32.0 by 44.0	25.5 by 35.0	17.0 by 23.3				
90	41.0 by 57.0	36.0 by 50.0	29.0 by 40.0	19.0 by 26.0				
100	46.0 by 63.0	40.0 by 55.0	32.0 by 44.0	21.0 by 29.0				

Based on standard sound film aperture .631 by .868 of an inch.  
Figures for 25 mm. lens approximately twice as great as for 50 mm. lens.  
Figures for 100 mm. lens approximately one-half as great as for 50 mm. lens.

DEPTH OF FIELD

75 mm. LENS

Distance in Feet to Point of Focus	DISTANCES IN FEET INDICATING LIMITS OF GOOD DEFINITION															
	F-1		F-1.4		F-2		F-2.8		F-4		F-5.6		F-8			
	2.98 to 3.02	3.96 to 4.04	2.97 to 3.03	3.94 to 4.06	2.96 to 3.04	3.92 to 4.08	2.93 to 3.06	3.88 to 4.12	2.90 to 3.08	3.83 to 4.16	2.87 to 3.12	3.75 to 4.24	2.84 to 3.16	3.66 to 4.32		
	4	5	4	5	4	5	4	5	4	5	4	5	4	5		
3	9.8 to 10.3	10.7 to 11.3	9.7 to 10.4	10.6 to 11.5	9.5 to 10.6	10.4 to 11.7	9.3 to 10.8	10.2 to 12.0	9.8 to 12.5	9.4 to 13.3	9.0 to 14.5	8.7 to 11.8	8.3 to 12.8	7.5 to 11.2		
4	11.6 to 12.4	12.5 to 13.5	11.3 to 12.6	12.1 to 14.0	11.0 to 13.3	11.8 to 14.4	10.6 to 13.8	12.7 to 15.7	12.2 to 16.5	11.5 to 18.0	10.7 to 20	10.3 to 22	10.0 to 18	9.5 to 16		
5	13.5 to 14.5	14.4 to 15.6	13.3 to 14.8	14.2 to 15.9	13.0 to 15.2	13.8 to 16.3	12.5 to 17.0	14.8 to 17.5	13.7 to 19.3	13.0 to 21	12.2 to 19.5	11.5 to 18.0	11.3 to 22	10.7 to 20		
6	15.1 to 16.7	16.3 to 17.8	15.3 to 17.0	16.0 to 18.2	14.8 to 17.5	15.7 to 18.8	14.3 to 18.3	16.5 to 20.0	15.8 to 22.5	15.0 to 25	14.0 to 25	13.5 to 27	13.0 to 24	12.5 to 27		
7	17.1 to 18.9	18.1 to 20.0	16.8 to 19.3	17.7 to 20.5	16.5 to 20.0	17.3 to 21.2	16.0 to 21.0	18.0 to 22.5	17.3 to 23.7	16.5 to 25.5	15.8 to 29	15.0 to 30	14.7 to 27	14.0 to 36		
8	19.0 to 21.2	20.0 to 22.0	18.6 to 21.7	19.5 to 22.5	18.0 to 22.5	18.6 to 22.5	17.3 to 23.7	19.0 to 24.0	18.0 to 25.5	17.3 to 27.5	16.5 to 29	15.8 to 33	15.0 to 36	14.0 to 36		
9	21.0 to 23.5	22.0 to 24.0	20.0 to 23.0	21.0 to 24.0	20.0 to 23.0	21.0 to 24.0	19.0 to 23.0	21.0 to 25.0	20.0 to 25.5	19.0 to 27.5	18.0 to 29	17.3 to 33	16.5 to 36	15.8 to 36		
10	23.0 to 26.0	24.0 to 26.0	22.0 to 25.0	23.0 to 26.0	22.0 to 25.0	23.0 to 26.0	21.0 to 25.0	23.0 to 27.0	22.0 to 27.5	21.0 to 29.5	20.0 to 31	19.0 to 33	18.0 to 36	17.3 to 36		
11	25.0 to 28.0	26.0 to 28.0	24.0 to 27.0	25.0 to 28.0	24.0 to 27.0	25.0 to 28.0	23.0 to 27.0	25.0 to 29.0	24.0 to 29.5	23.0 to 31.5	22.0 to 33	21.0 to 35	20.0 to 36	19.0 to 36		
12	27.0 to 30.0	28.0 to 30.0	26.0 to 29.0	27.0 to 30.0	26.0 to 29.0	27.0 to 30.0	25.0 to 29.0	27.0 to 31.0	26.0 to 31.5	25.0 to 33.5	24.0 to 35	23.0 to 37	22.0 to 36	21.0 to 36		
13	29.0 to 32.0	30.0 to 32.0	28.0 to 31.0	29.0 to 32.0	28.0 to 31.0	29.0 to 32.0	27.0 to 31.0	29.0 to 33.0	28.0 to 33.5	27.0 to 35.5	26.0 to 37	25.0 to 39	24.0 to 36	23.0 to 36		
14	31.0 to 34.0	32.0 to 34.0	30.0 to 33.0	31.0 to 34.0	30.0 to 33.0	31.0 to 34.0	29.0 to 33.0	31.0 to 35.0	30.0 to 35.5	29.0 to 37.5	28.0 to 39	27.0 to 41	26.0 to 36	25.0 to 36		
15	33.0 to 36.0	34.0 to 36.0	32.0 to 35.0	33.0 to 36.0	32.0 to 35.0	33.0 to 36.0	31.0 to 35.0	33.0 to 37.0	32.0 to 37.5	31.0 to 39.5	30.0 to 41	29.0 to 43	28.0 to 36	27.0 to 36		
16	35.0 to 38.0	36.0 to 38.0	34.0 to 37.0	35.0 to 38.0	34.0 to 37.0	35.0 to 38.0	33.0 to 37.0	35.0 to 39.0	34.0 to 39.5	33.0 to 41.5	32.0 to 43	31.0 to 45	30.0 to 36	29.0 to 36		
17	37.0 to 40.0	38.0 to 40.0	36.0 to 39.0	37.0 to 40.0	36.0 to 39.0	37.0 to 40.0	35.0 to 39.0	37.0 to 41.0	36.0 to 41.5	35.0 to 43.5	34.0 to 45	33.0 to 47	32.0 to 36	31.0 to 36		
18	39.0 to 42.0	40.0 to 42.0	38.0 to 41.0	39.0 to 42.0	38.0 to 41.0	39.0 to 42.0	37.0 to 41.0	39.0 to 43.0	38.0 to 43.5	37.0 to 45.5	36.0 to 47	35.0 to 49	34.0 to 36	33.0 to 36		
19	41.0 to 44.0	42.0 to 44.0	40.0 to 43.0	41.0 to 44.0	40.0 to 43.0	41.0 to 44.0	39.0 to 43.0	41.0 to 45.0	40.0 to 45.5	39.0 to 47.5	38.0 to 49	37.0 to 51	36.0 to 36	35.0 to 36		
20	43.0 to 46.0	44.0 to 46.0	42.0 to 45.0	43.0 to 46.0	42.0 to 45.0	43.0 to 46.0	41.0 to 45.0	43.0 to 47.0	42.0 to 47.5	41.0 to 49.5	40.0 to 51	39.0 to 53	38.0 to 36	37.0 to 36		
21	45.0 to 48.0	46.0 to 48.0	44.0 to 47.0	45.0 to 48.0	44.0 to 47.0	45.0 to 48.0	43.0 to 47.0	45.0 to 49.0	44.0 to 49.5	43.0 to 51.5	42.0 to 53	41.0 to 55	40.0 to 36	39.0 to 36		
22	47.0 to 50.0	48.0 to 50.0	46.0 to 49.0	47.0 to 50.0	46.0 to 49.0	47.0 to 50.0	45.0 to 49.0	47.0 to 51.0	46.0 to 51.5	45.0 to 53.5	44.0 to 55	43.0 to 57	42.0 to 36	41.0 to 36		
23	49.0 to 52.0	50.0 to 52.0	48.0 to 51.0	49.0 to 52.0	48.0 to 51.0	49.0 to 52.0	47.0 to 51.0	49.0 to 53.0	48.0 to 53.5	47.0 to 55.5	46.0 to 57	45.0 to 59	44.0 to 36	43.0 to 36		
24	51.0 to 54.0	52.0 to 54.0	50.0 to 53.0	51.0 to 54.0	50.0 to 53.0	51.0 to 54.0	49.0 to 53.0	51.0 to 55.0	50.0 to 55.5	49.0 to 57.5	48.0 to 59	47.0 to 61	46.0 to 36	45.0 to 36		
25	53.0 to 56.0	54.0 to 56.0	52.0 to 55.0	53.0 to 56.0	52.0 to 55.0	53.0 to 56.0	51.0 to 55.0	53.0 to 57.0	52.0 to 57.5	51.0 to 59.5	50.0 to 61	49.0 to 63	48.0 to 36	47.0 to 36		
26	55.0 to 58.0	56.0 to 58.0	54.0 to 57.0	55.0 to 58.0	54.0 to 57.0	55.0 to 58.0	53.0 to 57.0	55.0 to 59.0	54.0 to 59.5	53.0 to 61.5	52.0 to 63	51.0 to 65	50.0 to 36	49.0 to 36		
27	57.0 to 60.0	58.0 to 60.0	56.0 to 59.0	57.0 to 60.0	56.0 to 59.0	57.0 to 60.0	55.0 to 59.0	57.0 to 61.0	56.0 to 61.5	55.0 to 63.5	54.0 to 65	53.0 to 67	52.0 to 36	51.0 to 36		
28	59.0 to 62.0	60.0 to 62.0	58.0 to 61.0	59.0 to 62.0	58.0 to 61.0	59.0 to 62.0	57.0 to 61.0	59.0 to 63.0	58.0 to 63.5	57.0 to 65.5	56.0 to 67	55.0 to 69	54.0 to 36	53.0 to 36		
29	61.0 to 64.0	62.0 to 64.0	60.0 to 63.0	61.0 to 64.0	60.0 to 63.0	61.0 to 64.0	59.0 to 63.0	61.0 to 65.0	60.0 to 65.5	59.0 to 67.5	58.0 to 69	57.0 to 71	56.0 to 36	55.0 to 36		
30	63.0 to 66.0	64.0 to 66.0	62.0 to 65.0	63.0 to 66.0	62.0 to 65.0	63.0 to 66.0	61.0 to 65.0	63.0 to 67.0	62.0 to 67.5	61.0 to 69.5	60.0 to 71	59.0 to 73	58.0 to 36	57.0 to 36		
31	65.0 to 68.0	66.0 to 68.0	64.0 to 67.0	65.0 to 68.0	64.0 to 67.0	65.0 to 68.0	63.0 to 67.0	65.0 to 69.0	64.0 to 69.5	63.0 to 71.5	62.0 to 73	61.0 to 75	60.0 to 36	59.0 to 36		
32	67.0 to 70.0	68.0 to 70.0	66.0 to 69.0	67.0 to 70.0	66.0 to 69.0	67.0 to 70.0	65.0 to 69.0	67.0 to 71.0	66.0 to 71.5	65.0 to 73.5	64.0 to 75	63.0 to 77	62.0 to 36	61.0 to 36		
33	69.0 to 72.0	70.0 to 72.0	68.0 to 71.0	69.0 to 72.0	68.0 to 71.0	69.0 to 72.0	67.0 to 71.0	69.0 to 73.0	68.0 to 73.5	67.0 to 75.5	66.0 to 77	65.0 to 79	64.0 to 36	63.0 to 36		
34	71.0 to 74.0	72.0 to 74.0	70.0 to 73.0	71.0 to 74.0	70.0 to 73.0	71.0 to 74.0	69.0 to 73.0	71.0 to 75.0	70.0 to 75.5	69.0 to 77.5	68.0 to 79	67.0 to 81	66.0 to 36	65.0 to 36		
35	73.0 to 76.0	74.0 to 76.0	72.0 to 75.0	73.0 to 76.0	72.0 to 75.0	73.0 to 76.0	71.0 to 75.0	73.0 to 77.0	72.0 to 77.5	71.0 to 79.5	70.0 to 81	69.0 to 83	68.0 to 36	67.0 to 36		
36	75.0 to 78.0	76.0 to 78.0	74.0 to 77.0	75.0 to 78.0	74.0 to 77.0	75.0 to 78.0	73.0 to 77.0	75.0 to 79.0	74.0 to 79.5	73.0 to 81.5	72.0 to 83	71.0 to 85	70.0 to 36	69.0 to 36		
37	77.0 to 80.0	78.0 to 80.0	76.0 to 79.0	77.0 to 80.0	76.0 to 79.0	77.0 to 80.0	75.0 to 79.0	77.0 to 81.0	76.0 to 81.5	75.0 to 83.5	74.0 to 85	73.0 to 87	72.0 to 36	71.0 to 36		
38	79.0 to 82.0	80.0 to 82.0	78.0 to 81.0	79.0 to 82.0	78.0 to 81.0	79.0 to 82.0	77.0 to 81.0	79.0 to 83.0	78.0 to 83.5	77.0 to 85.5	76.0 to 87	75.0 to 89	74.0 to 36	73.0 to 36		
39	81.0 to 84.0	82.0 to 84.0	80.0 to 83.0	81.0 to 84.0	80.0 to 83.0	81.0 to 84.0	79.0 to 83.0	81.0 to 85.0	80.0 to 85.5	79.0 to 87.5	78.0 to 89	77.0 to 91	76.0 to 36	75.0 to 36		
40	83.0 to 86.0	84.0 to 86.0	82.0 to 85.0	83.0 to 86.0	82.0 to 85.0	83.0 to 86.0	81.0 to 85.0	83.0 to 87.0	82.0 to 87.5	81.0 to 89.5	80.0 to 91	79.0 to 93	78.0 to 36	77.0 to 36		
41	85.0 to 88.0	86.0 to 88.0	84.0 to 87.0	85.0 to 88.0	84.0 to 87.0	85.0 to 88.0	83.0 to 87.0	85.0 to 89.0	84.0 to 89.5	83.0 to 91.5	82.0 to 93	81.0 to 95	80.0 to 36	79.0 to 36		
42	87.0 to 90.0	88.0 to 90.0	86.0 to 89.0	87.0 to 90.0	86.0 to 89.0	87.0 to 90.0	85.0 to 89.0	87.0 to 91.0	86.0 to 91.5	85.0 to 93.5	84.0 to 95	83.0 to 97	82.0 to 36	81.0 to 36		
43	89.0 to 92.0	90.0 to 92.0	88.0 to 91.0	89.0 to 92.0	88.0 to 91.0	89.0 to 92.0	87.0 to 91.0	89.0 to 93.0	88.0 to 93.5	87.0 to 95.5	86.0 to 97	85.0 to 99	84.0 to 36	83.0 to 36		
44	91.0 to 94.0	92.0 to 94.0	90.0 to 93.0	91.0 to 94.0	90.0 to 93.0	91.0 to 94.0	89.0 to 93.0	91.0 to 95.0	90.0 to 95.5	89.0 to 97.5	88.0 to 99	87.0 to 101	86.0 to 36	85.0 to 36		
45	93.0 to 96.0	94.0 to 96.0	92.0 to 95.0	93.0 to 96.0	92.0 to 95.0	93.0 to 96.0	91.0 to 95.0	93.0 to 97.0	92.0 to 97.5	91.0 to 99.5	90.0 to 101	89.0 to 103	88.0 to 36	87.0 to 36		
46	95.0 to 98.0	96.0 to 98.0	94.0 to 97.0	95.0 to 98.0	94.0 to 97.0	95.0 to 98.0	93.0 to 97.0	95.0 to 99.0	94.0 to 99.5	93.0 to 101.5	92.0 to 103	91.0 to 105	90.0 to 36	89.0 to 36		
47	97.0 to 100.0	98.0 to 100.0	96.0 to 99.0	97.0 to 100.0	96.0 to 99.0	97.0 to 100.0	95.0 to 99.0	97.0 to 101.0	96.0 to 101.5	95.0 to 103.5	94.0 to 105	93.0 to 107	92.0 to 36	91.0 to 36		
48	99.0 to 102.0	100.0 to 102.0	98.0 to 101.0	99.0 to 102.0	98.0 to 101.0	99.0 to 102.0	97.0 to 101.0	99.0 to 103.0	98.0 to 103.5	97.0 to 105.5	96.0 to 107	95.0 to 109	94.0 to 36	93.0 to 36		
49	101.0 to 104.0	102.0 to 104.0	100.0 to 103.0	101.0 to 104.0	100.0 to 103.0	101.0 to 104.0	99.0 to 103.0	101.0 to 105.0	100.0 to 105.5	99.0 to 107.5	98.0 to 109	97.0 to 111	96.0 to 36	95.0 to 36		
50	103.0 to 106.0	104.0 to 106.0	102.0 to 105.0	103.0 to 106.0	102.0 to 105.0	103.0 to 106.0	101.0 to 105.0	103.0 to 107.0	102.0 to 107.5	101.0 to 109.5	100.0 to 111	99.0 to 113	98.0 to 36	97.0 to 36		
51	105.0 to 108.0	106.0 to 108.0	104.0 to 107.0	105.0 to 108.0	104.0 to 107.0	105.0 to 108.0	103.0 to 107.0	105.0 to 109.0	104.0 to 109.5	103.0 to 111.5	102.0 to 113	101.0 to 115	100.0 to 36	99.0 to 36		
52	107.0 to 110.0	108.0 to 110.0	106.0 to 109.0	107.0 to 110.0	106.0 to 109.0	107.0 to 110.0	105.0 to 109.0	107.0 to 111.0	106.0 to 111.5	105.0 to 113.5	104.0 to 115	103.0 to 117	102.0 to 36	101.0 to 36		
53	109.0 to 112.0	110.0 to 112.0	108.0 to 111.0	109.0 to 112.0	108.0 to 111.0	109.0 to 112.0	107.0 to 111.0	109.0 to 113.0	108.0 to 113.5	107.0 to 115.5	106.0 to 117	105.0 to 119	104.0 to 36	103.0 to 36		
54	111.0 to 114.0	112.0 to 114.0	110.0 to 113.0	111.0 to 114.0	110.0 to 113.0	111.0 to 114.0	109.0 to 113.0	111.0 to 115.0	110.0 to 115.5	109.0 to 117.5	108.0 to 119	107.0 to 121	106.0 to 36	105.0 to 36		
55	113.0 to 116.0	114.0 to 116.0	112.0 to 115.0	113.0 to 116.0	112.0 to 115.0	113.0 to 116.0	111.0 to 115.0	113.0 to 117.0	112.0 to 117.5	111.0 to 119.5	110.0 to 121	109.0 to 123	108.0 to 36	107.0 to 36		
56	115.0 to 118.0	116.0 to 118.0	114.0 to 117.0													



# ON THE FIRING LINE

By HELEN BOYCE

## PARAMOUNT STUDIO

Virgil Miller, Head of Camera Dept.

"College Humor." Producer, William LeBaron. From the novel "Bachelor of Arts" by Dean Fales; screenplay, Butler and Benyon; director, Wesley Ruggles; assistant director, Paul Jones; first cameraman, Leo Tover; operative cameraman, Guy Bennett; assistant, Thomas Morris; stills, Mac Elliott; recording engineer, M. M. Paggi; film editor, Hugh Bennett; art director, Hans Dreier; chief electrician, Roy Roberts; chief grip, Andy Durkus; chief prop, Lou Asher.

Cast: Bing Crosby, Jack Oakie, Burns and Allen, Richard Arlen, Lona Andrie, Mary Kornman.

"The Song of Songs." Producer, Paramount Productions, Inc.; screenplay, Samuel Hoffenstein; director, Rouben Mamoulian; assistant director, Robert Lee; first cameraman, Victor Milner; operative cameraman, William Mellar; assistant, Guy Roe; stills, Don English; recording engineer, Harry Mills; film editor, Otho Lovering; art director, Hans Dreier; chief electrician, Fred Geiger; chief grip, Kenneth DeLand; chief prop, Joe Youngermaz.

Cast: Marlene Dietrich, Ahearne, Atwill and Skipworth.

"Jennie Gerhardt." Producer, B. P. Schulberg; screenplay, Lauren and Partos; director, Maurice Gering; assistant director, Art Jacobson; first cameraman, Leon Shamroy; operative cameraman, Fred Mayer; assistant, Milton Bridenbecker; stills, William Walling, Jr.; recording engineer, J. A. Goodrich; film editor, Jane Loring; art director, Hans Dreier; chief electrician, Karl Gotham; chief grip, Bince Bratton; chief prop, Oren Hagland.

Cast: Sylvia Sydney, H. B. Warner, Cook, Arnold, Carter, Collins.

## FOX STUDIO

G. J. Fischer, Head of Camera Dept.

"It's Great To Be Alive." Producer, Sol Wurtzel; author, John D. Swan; adaptation, Paul Perez; dialogue, Arthur Kober; director, Al. Werker; assistant director, Phil Ford; first cameraman, Robert Planck; operative cameraman, Arthur Arling; assistants, Maurice Kains and J. Van Wormer; stills, Wally Churning; recording engineer, Al. Bruzlin; film editor, Barney Wolfe; assistant, Bob Simpson; art director, Duncan Cramer; chief electrician, H. David; chief grip, J. Murphy; chief prop, C. Baker.

Cast: Edna May Oliver, Dorothy Burgess, Herbert Munding, Gloria Stuart, Joan Marsh, Raoul Roulin, Emma Dunn, Edward Van Sloan, Robert Greig.

"I Loved You Wednesday." Producer, Winfield Sheehan. From the play by Molly Ricardel and William DeBois; screenplay, Philip Klein and Horace Jackson; director, Henry King; assistant director, C. Woolstenhulme; first cameraman, Hal Mohr; operative cameramen, W. Skall, I. Rosenberg and W. Lynch; assistants, R. Surtees and R. Mack; stills, Cliff Maupin; recording engineer, Donald Flick; assistant, Al. Sigler; film editor, Frank Hull; assistant, Larry Moore; art director, Joe Wright; chief electrician, Cet Atafford; chief grip, Walter Faxon; chief prop, William McKee.

Cast: Warner Baxter, Elissa Landi, Miriam Jordan, Victor Jory, Laura Hope Crews.

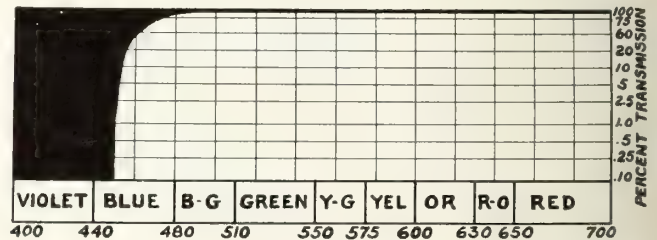
## DEPTH OF FIELD 50 mm. LENS

Distance in Feet To Point of Focus	DISTANCES IN FEET INDICATING LIMITS OF GOOD DEFINITION									
	F-1	F-1.4	F-2	F-2.8	F-4	F-5.6	F-8			
2	1.98 to 2.02	1.97 to 2.03	1.95 to 2.05	1.93 to 2.07	1.90 to 2.10	1.85 to 2.15	1.80 to 2.20			
3	2.94 to 3.06	2.91 to 3.08	2.9 to 3.1	2.8 to 3.2	2.8 to 3.2	2.7 to 3.3	2.6 to 3.4			
4	3.90 to 4.10	3.86 to 4.17	3.8 to 4.2	3.7 to 4.3	3.7 to 4.4	3.5 to 4.7	3.3 to 5.0			
5	4.84 to 5.16	4.78 to 5.22	4.7 to 5.3	4.6 to 5.5	4.5 to 5.7	4.3 to 6.0	4.0 to 6.6			
6	5.8 to 6.3	5.7 to 6.4	5.6 to 6.5	5.5 to 6.7	5.3 to 7.0	5.0 to 7.6	4.7 to 8.5			
7	6.7 to 7.3	6.6 to 7.4	6.4 to 7.7	6.2 to 8.0	6.0 to 8.4	5.7 to 9.3	5.2 to 10.7			
8	7.6 to 8.4	7.5 to 8.6	7.3 to 8.8	7.0 to 9.2	6.7 to 10.0	6.3 to 11.1	5.8 to 13.2			
9	8.5 to 9.5	8.3 to 9.7	8.1 to 10.2	7.7 to 10.7	7.3 to 11.7	6.8 to 13.1	6.3 to 16.2			
10	9.4 to 10.7	9.2 to 10.9	8.9 to 11.4	8.5 to 12.1	8.0 to 13.3	7.4 to 15.3	6.7 to 20			
11	10.3 to 11.8	10.0 to 12.2	9.7 to 12.7	9.2 to 13.6	8.7 to 15	8.0 to 17.8	7.2 to 24			
12	11.2 to 13.0	10.9 to 13.4	10.4 to 14.0	10.0 to 15.2	9.3 to 17	8.5 to 20.6	7.6 to 29			
13	12.0 to 14.2	11.7 to 14.7	11.2 to 15.5	10.6 to 16.7	9.9 to 19	9.0 to 23.7	8.0 to 36			
14	12.9 to 15.3	12.5 to 16.0	12.0 to 17.0	11.3 to 18.6	10.4 to 21	9.5 to 27.3	8.3 to 45			
15	13.8 to 16.5	13.3 to 17.3	12.7 to 18.5	11.9 to 20.2	10.9 to 24	10.0 to 31	8.7 to 57			
16	14.6 to 17.8	14.0 to 18.5	13.3 to 20.0	12.5 to 22.0	11.5 to 26	10.3 to 36	9.0 to 75			
17	15.4 to 19.1	14.7 to 20.0	14.0 to 21.5	13.0 to 24.0	12.0 to 29	10.7 to 42	9.3 to 106			
18	16.2 to 20.3	15.6 to 21.4	14.8 to 23.0	13.8 to 26.0	12.5 to 32	11.0 to 48	9.5 to 162			
19	17.0 to 21.5	16.3 to 23.0	15.4 to 25	14.3 to 28.5	13.0 to 36	11.4 to 56	9.8 to 300			
20	17.8 to 23.0	17.0 to 24.5	16 to 26	14.8 to 31	13.5 to 40	11.8 to 66	10 to INF			
25	21.7 to 29.6	20.4 to 32	19 to 36	17 to 45	15 to 65	13 to 250	11 to INF			
30	25.5 to 37.0	24 to 41	22 to 48	20 to 63	17 to 116	15 to INF	12 to INF			
40	32 to 53	30 to 62	27 to 80	23 to 133	20 to INF	17 to INF	13 to INF			
50	38 to 72	35 to 84	31 to 130	27 to 408	23 to INF	18 to INF	14 to INF			
80	53 to 160	47 to 266	40 to INF	33 to INF	27 to INF	20 to INF	16 to INF			

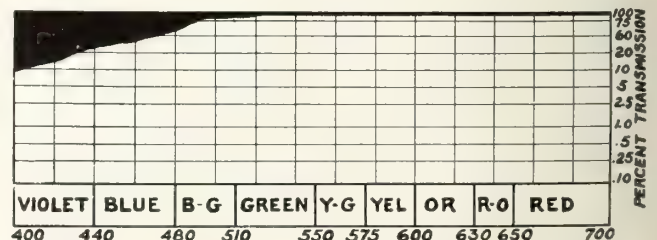
Based on an allowable circle of confusion of .002 of an inch.

## FILTER TRANSMISSION GRAPHS

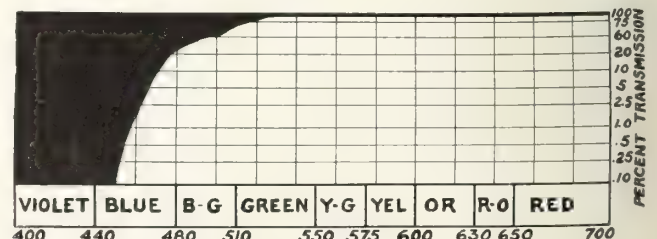
Wratten Light Filters



No. 3. Aero No. 1



No. 6. K1



No. 8. K2

Data by Eastman Kodak Co. Wratten Filters. 1932 Edition.



## COLUMBIA STUDIO

**Emil Oster, Head of Camera Dept.**

"The Wreckers." Producer, Harry Cohn; author, Al. Rogell; screenplay, Jo Swerling; director, Al. Rogell; assistant, Art Black; first cameraman, Benny Kline; operative cameraman, F. M. Browne; assistants, Fred Dawson and Jack Russell; stills, Whitie Schafer; recording engineer, George Cooper; assistant, Bill Jarvis; film editor, Dick Cahoon; assistant, Bill Lyon; art director, Steve Gooson; chief electrician, Holmer Plannett; chief grip, Walter Meins; chief prop, Jack Wrenn.

Cast: Jack Holt, Genevieve Tobin, George E. Stone, Ward Bond.

"Madam La Gimp." Producer, Harry Cohn; author, Damon Runyon; screenplay, Robert Riskin; director, Frank Capra; assistant director, Buddy Colman; first cameraman, Joe Walker; operative cameraman, Andre Barlatier; assistants, George Kelly and Mike Walsh; stills, William Fraker, Jr.; recording engineer, Eddie Burns; assistant, Buster Libbitt; film editor, Maurice Wright; assistant, Charles Nelson; art director, Steve Gooson; chief electrician, George Hagger; chief grip, Jimmy Lloyd; chief prop, George Rhine.

Cast: May Robson, Warren Williams, Glenda Farrell, Ned Sparks, Guy Kibbee, Nat Pendleton.

## RKO STUDIO

**William Eglington, Head of Camera Dept.**

"The Silver Cord." Executive producer, Meriam C. Cooper; associate producer, Pandro S. Berman; play by Sidney Howard; screenplay, Jane Murnin; director, John Cromwell; assistant director, Dewey Starkey; first cameraman, Charles Rosher; operative cameraman, Frank Redman; assistant, Cecil Cooney; stills, John Miehle and Fred Hendrickson; recording engineer, Clem Portman; second recorder, J. G. Stewart; assistant, James Fields; film editor, George Nicholls, Jr.; assistant, Thomas Scott; art director, Van Nest Polglase; chief electrician, Argyle Nelson; chief grip, Marvin Wilson; chief prop, John Sherwood.

Cast: Irene Dunn, Joel McCrea, Laura Hope Crews, Eric Linden and Frances Dee.

"The Public Be Sold." Associate producer, William Goetz; author, Charles Curran and Rich Gaffney; director, J. Walter Ruben; assistant director, J. H. Anderson; first cameraman, Henry Cronjager; operative cameraman, Roy Eslick; assistant, Art Lane; stills, Fred Hendrickson; recording engineer, John Tribby; assistants, Ray Holden and Jimmy Speak; film editor, George Hively; assistant, Jack Hively; art directors, Van Nest Polglase and Carroll Clark; chief electrician, Paul Bristow; chief grip, Ralph Wildman; chief prop, John Sherwood.

Cast: Richard Dix, Elisabeth Allen, Alan Dinehart, David Landau and Doris Kenyon.

## M-G-M STUDIOS

**John Arnold, Head of Camera Dept.**

"Peg O' My Heart." A Robert Z. Leonard production; author, J. Hartley Manners; screenplay, Frank R. Adams; assistant director, Harry B. Bucquet; first cameraman, George Barnes; operative cameraman, Herbert Van Dyke; assistant, Wilbur Bradley; stills, S. C. Mannatt; recording director, Douglas Shearer; film editor, Margaret Booth; art director, Cedric Gibbons; chief electrician, Wes Shanks; chief grip, Kenneth Jackson; chief prop, Jimmy Sweeney.

Cast: Marion Davies, Onslow Stevens, J. Farrell MacDonald, Juliette Compton.

"Dinner at Eight." A David O. Selznick production. Author, George S. Kaufman and Edna Ferber; screenplay, Frances Marion and Herman J. Mankiewicz; director, George Cukor; first cameraman, William Daniels; operative cameraman, A. Lindsley Lane; assistant, William Riley; stills, Roy Clark; recording engineer, Douglas Shearer; film editor, Ben Lewis; art directors, Hobe Erwin and Fred Hope; chief electrician, Floyd Porter; chief prop, Bert Spurlin.

Cast: Marie Dressler, John Barrymore, Wallace Beery, Jean Harlow, Lionel Barrymore, Lee Tracy, Edmund Lowe, Billie Burke.

"Lady of the Night." Associate producer, Lucien Hubbard; author, Anita Loos; screenplay, Gene Markey and Kathryn Scola; director, William Wellman; first cameraman, James Van Trees; operative cameraman, Louis Jennings; assistant, Tom Dowling; stills, Bert Lynch; recording engineer, Douglas Shearer; film editor, William S. Gray; art director, Stanley Rogers; chief electrician, Wesley Shanks; chief prop, Hal Fausser.

Cast: Loretta Young, Ricardo Cortez, Franchot Tone, Andy Devine, Una Merkel.

"Hold Your Man." A Sam Wood production. Author, Anita Loos; screenplay, Anita Loos and Howard Emmett Rogers; director, Sam Wood; assistant, John Waters; first cameraman, Harold Rosson; operative cameraman, Lester White; assistant, Harry Parkins; stills, Frank Tanner; recording director, Douglas Shearer; film editor, Frank Sullivan; art director, Merrill Pye; chief electrician, A. W. Brown; chief grip, Ed. Bhinney; chief prop, Nolan Hurst.

Cast: Jean Harlow, Clark Gable, Stuart Erwin, Dorothy Burgess, Muriel Kirkland.

## SCREEN CRAFT STUDIO

"His Private Secretary." Producer, Bernard B. Ray; author, Lew Collins; screenplay, Jack Natterford; director, Phil Whitman; first cameraman, Abe Scholtz; operative cameraman, J. Henry Kruse; stills, John Jenkins; recording engineer, Oscar Langerstrom; chief electrician, Pat Patterson; chief grip, Joe Schaefer; chief prop, Arden Cripe.

Cast: Evelyn Knapp, John Wayne, Reginald Barlow, Alec B. Francis, Arthur Huyt, Natalie Kingston, Al St. John.



## TORRENCE, JUNE AND LYON

The last motion picture still taken of our beloved actor friend, Ernest Torrence—singer, pianist and artist. "I Cover the Water-front" was his farewell to pictures and to the world. Left to right in this still with him are Ray June, chief cinematographer, and Ben Lyon, star. Gaston Longet shot the still.

## UNIVERSAL STUDIO

**F. S. Campbell, Head of Camera Dept.**

"Salt Water." Authors, John Golden and Dan Jarrett; screenplay, Walker, Snell & Marks; director, William Wyler; assistant director, Freddie Franks; first cameraman, George Robinson; operative cameraman, Allyn Jones; assistant, Paul Hill; stills, Emmett Schoenbaum; film editor, Ted Kent; chief electrician, Irving Smith; chief grip, Barney Summers; chief prop, Robert Murdock.

Cast: Slim Summerville, Zasu Pitts, Una Merkel, Warren Hyman, Berton Churchill.

"In the Money." Producer, E. M. Asher; original and adaptation by Murray Roth and Howard Emmett Rogers; director, Murray Roth; assistant director, Joe McDonough; first cameraman, Jackson Rose; operative cameraman, Dick Fryer; assistant, William Dodds; stills, Clifton, Kling; recording engineer, William Hedgecock; film editor, Robert Carlisle; chief electrician, Warren Monroe; chief grip, Peter Abriss; chief prop, Wallace Kirkpatrick.

Cast: Lew Ayres, Ginger Rogers, Myrna Kennedy, Shirley Grey, Charles Grapewin and Lucille Gleason.

"Gleason's New Deal." Producer, Warren Doane; authors, Bill Hackney and M. Lightfoot; director, James Horne; first cameraman, Len Powers; assistants, Walter Williams and Harold Graham; stills, Shirley Vance Martin; recording engineer, Frank Richards; film editor, Harry Marker; chief electrician, Roy Fullerton; chief grip, Bert Whaling; chief prop, Tom Sommerville.

Featuring James Gleason.

## CALIFORNIA TIFFANY STUDIO

**Edward Tiffany, Head of Camera Dept.**

"The Big Brain." Producer, Kelly Bischoff Saal; author, Sy Bartlett; screenplay, Warren B. Duff; director, George Archinbaud; assistant, Eric Stacy; first cameraman, Arthur Edson; operative cameraman, Harry Davis; assistants, Bert Eason and Vernon Larson; stills, Romaine Freulich; recording engineers, Hans Weeren and Whitey Howett; assistants, Alf Burton, Gilbert Pollack and Martin Jackson; film editors, Martin G. Cohn and Rose Loewinger; assistant, Stanley Kolbert; art director, Ralph DeLacy; chief electricians, Al. Cahen and Don Donaldson; chief grip, Robert Murphy; chief prop, Charles Henley.

Cast: George E. Stone, Phillips Holmes, Fay Wray, Minna Gombel, Reginald Owen, Lilian Bond.

## PATHE STUDIO

"Tomorrow at Seven." Producer, J. J. Snitzer; author, Ralph Spence; director, Ray Enright; assistant director, Gaston Glass; first cameraman, C. E. Schoenbaum; operative cameraman, Earl Stafford; assistants, Bernard Moore and Lester Schorr; stills, Fred Archer; recording engineer, Lodge Cunningham; film editor, Rose Lowenger; art director, Ed. Jewell; chief electrician, Jack Neil; chief grip, Charles Morris; chief prop, James Fleetwood.

Cast: Chester Morris, Vivienne Osburn, Frank McHugh, Allen Jenkins, Henry Stevenson, Grant Mitchell.

## MASCOT PICTURES CORPORATION

"The Gringo." Producer, Nat Levine; adaptation and screenplay, Ford Beebe; director, Ford Beebe; assistant director, George Webster; first cameraman, Ernest Miller; operative cameraman, Thomas Gallagan; assistants, Monty Steadman and Joe Lykins; stills, Paul Ries; recording engineer, Earl Crane; assistants, Terry Kellum and Dal Glesch; film editor, Ray Snyder; assistant, Jone Caine; art director, Jack Coyle; chief electrician, William Perry; chief grip, Howard Burrows; chief prop, Charles Stevens.

Cast: Victor McLaglen, Henry B. Walthall, Ruth Hall, Conchita Montenegro, Regis Toomey, William Bond, Edmund Breeze, Lois Wilson, J. Faro MacDonald.



"Not once are you aware of a camera," writes Rob Wagner, in his script, about "Thunder Over Mexico," and that's one thing that every picture produced should deserve to have said about it.

Also Rob opened his critique of the picture with this picturesque gab-line: "At last we are permitted to see the bastard child of the shot-gun marriage of Moscow and Hollywood," which is almost enough to be said about any picture, but this one is entitled to broader treatment and the editor will permit our own J. Henry Kruse to elaborate:

"The tremendous flexibility of the camera's usage in this picture, creating such marvelous photographic drama, held me on the edge of my seat and this without the aid of a spoken word on the screen. No mechanical under-carriage contrivances were used, neither was the aid of artificial light employed by E. Tisse, cameraman. But filters, good film, compositional ability and interpretative angles were freely employed. Also time—time for thought, fourteen months on the job in Mexico.

"Actually it was that cameraman's so often wished for thing—a photographic spree! With camera, time and plenty of film. With wonderful subjects, such as beautiful clouds, vivid natural settings, of haciendas (not the Hollywood conception), barbarous rocks, Aztec and Mayan ruins, delicate vapor wreathed mountain peaks and above all a picturesque people, contributing to their

own personal drama—a story of a downtrodden people's transition to their own place in the sun.

"The camera as a medium was complemented by a fine synchronism of beautiful music conceived by Dr. Hugo Reisenfeld, under supervision of Abe Meyers. The musical accompaniment is an undertone, subjective to the drama, capturing the spirit of the ancient Aztecs and Mayans and their modern descendants, interpreting their very souls in this moving drama of Mexico.

"Mr. Upton Sinclair, internationally known author, stood the gaff of financing and producing the film—his first effort and a successful one.

Howard Anderson made the special effects of wipe-offs, splitscreens, double exposure, etc.

The entire producing personnel on the trip consisted of only four men. Eisenstein, Tisse and G. V. Alexandrov, writer and assistant to Eisenstein, have returned to Russia. The fourth person was Hunter S. Kimborough, brother of Mrs. Upton Sinclair, business manager of the trip." Sol Lesser will release the picture.

Let the editor add that two hundred thousand feet of negative was shot without the benefit of script and this 40 miles of celluloid was simmered down to a footage of 6300 feet by Don Hayes, under supervision of Harry Chandlee, a tremendous and in fact almost impossible technical feat of intelligent editing.

To Mr. Hayes and Mr. Chandlee, therefore, is due a large share of the honors that will be conferred upon the production of this unusual cinematic opus.

RCA Photophone recording system is used.

#### BY REQUEST

We have so many requests for a view of Mr. Otto Phocus that we have decided to print one. This shows Otto in one of his jovial moods and the camera has caught his reaction to a very funny inci-

**The SUPER PARVO**

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ANTI BUCKLING DEVICE.  
NEW FRICTION HEAD TRIPOD  
WITH HYDRAULIC BALANCE.

**"At last  
the Silent  
Camera!"**



[We explained to Otto that only morons are supposed to whistle. "That's all right," he said, "I whistle more'n the average person," and started throwing ink around the office.—Editor's Note.]

dent he has just witnessed. A man fell off a 20 foot ladder in front of the office and landed on his head. Otto said: "Well! His feet won't hurt," and rolled over on his other side. Mr. Phocus is a whistler and a collector. He has been in the automobile, picture and marriage business and at present is resting from the winter rush. Copies suitable for framing cannot be had by applying to this office.

**ANDRE DEBRIE, INC.**  
115 WEST 45<sup>TH</sup> ST. NEW YORK CITY

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## WHAT'S DOING ABROAD

(Continued from Page 31)

niners would have if let loose in such a cellar. Well, why make your mouth water? The sun was shining so invitingly that I wanted to get out in the open, so I rested on the former kings' lawn, drank some native tea and the well known sausage roll helped some of my hunger. Can you picture yourself eating on a king's lawn? Quite a kick!

Speaking of scouting—film talent scouts come over from the United States—they get as far as the merry mucilage parlor, become sun dodgers and never get out of London, when in reality most of the talent is inland and north. English producers go to the other extreme, they pick out the old troupers, then these old timers wonder why they don't look as well as the seventeen-year olds of Hollywood. A good bet for any American company is a little stage girl named Valerie Hobson, the image of Lillian Gish when she was young.

Magazine store proprietors tell me how surprisingly well **THE INTERNATIONAL PHOTOGRAPHER** sells in London. Why not? It's a book of knowledge for both the professional and amateur.

I hear, tell and you listen and read of an American star who came to England to make the super picture. She was head man and the whole show. She refused to employ an American or an English cameraman. At great expense the picture was finally finished. It turned out to be a fine flop, hissed at every performance. She went back to America broken-hearted and spiteful, blaming English inefficiency. Cruel woman, how could she? She had in her menagerie a Russian production manager, a German art director, a German cameraman, an American director; all under her supervision, trying to compete with English men and women on their home grounds in speaking the King's English. Why blame the innocent English?

You have heard about the Moscow atrocity and how England has stood behind its subjects. United States should take a hint from this and try to be honest with its investors who work all their lives to save for a rainy day only to have a deluge with the kind reply that someone is sorry.

The outstanding pictures here at this writing are "King Kong" and "No Man of Her Own." Leo Tover did a fine job. "King Kong" is a bang—S. R. O. These are the kind of pictures that should be made nowadays—makes a fellow forget his troubles—*amazes* and *amuses* the public. If the producers would think more about these two words their troubles would soon be over. Instead they force parlor, bedroom and bath pictures on the public. The other week they ran "She Done Him Wrong." All that was left of it when the censors got through were entrances, exits and end. Nobody knew what the story was about.

Six-fifty-niners are getting quite strong over here now, living up to their good reputation all over the world. Bob Martin is holding down the A. R. P. fortress; Charles Van Enger just arrived, started work immediately for Gaumont-British; Glen MacWilliams nearing the end of "Orders Are Orders." Bob La Prelle is working as second with Glenn. Freddie Smith and Harold Young, Hollywood film editors, are batting for Gaumont—Young on loan from London Film. Otto Ludwig arrived in Paris yesterday with his newly acquired bride. Production is starting to boom again.

I say, tea is getting cold. Cheerio!

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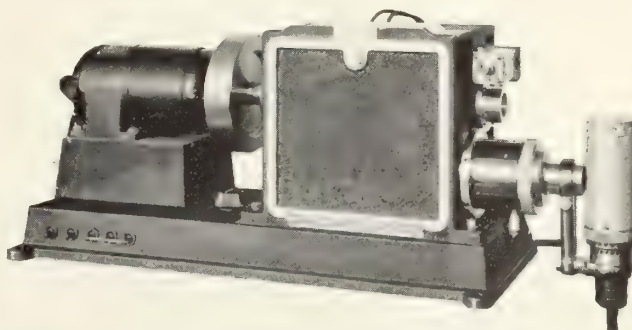
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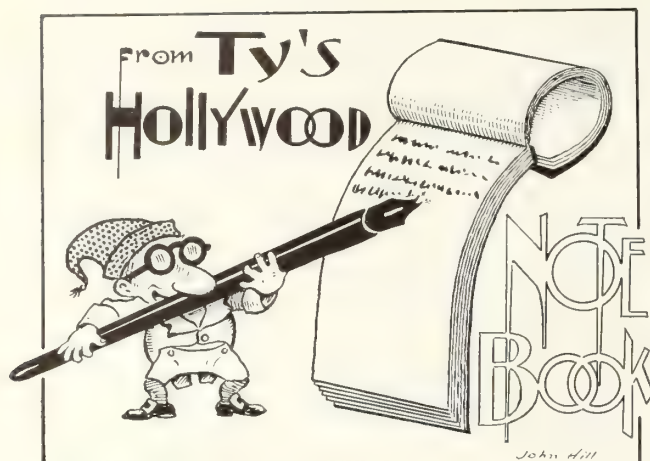
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Do you know that some people see each motion picture not once or twice, but from 125 to 200 times? They are the inspectors in the film laboratories. It is their duty to look at every inch of film that is sent to the theaters throughout the world. They sit from eight to ten hours a day with their eyes glued to a screen, continually on the alert for errors in both the dialog and picture.

Miriam Goldina, at the Paramount Studio, recently came from Soviet Russia. There, she says, pictures are made to be inspiring and educational. Only a few cents admission is charged to see a show and often tickets are given away free. The players form a unit of their own, which they never leave, but continue to work as a body. Actors there are never laid off but are paid weekly by the government.

No wonder Hollywood players seem "nutty" at times. Personally they are perfectly all right. It is just that they must promote a new job each morning and to re-sell themselves at every turn for each bite they eat. To do this they must be everywhere at once and their antics in getting there do appear foolish.

"Speekin' a job," is the new phrase of the extra ranks. It is their term for the necessary scampering to the studio that is shooting a mob scene. The wise extras go there with the hope of getting the ticket of someone who couldn't get there on time. They spend their own or

their friend's gasoline as a speculation for a job. I've seen them leave the studio with tears in their eyes.

I'd like to whack those people on the nose who think that in Hollywood sin is a Public Utility and that each public personage has an iniquitous wallow out in his back yard.

There is one star who doesn't get a large salary. That is Harry Green. Recently he signed a contract to do one of the leads in DeMille's "This Day and Age," for \$1 a week. DeMille wanted Green to do the part, but Green wanted too much money, so, rather than take a lower figure, Green compromised at the \$1 a week. It sounds like a publicity stunt, but it isn't. Green wanted the part and he has certain policies about salary chiseling.

The other day the newspapers said something about a house out in North Hollywood being stolen. Someone got a gang of helpers and a truck and off the house went. I wonder if the truck was large enough to hold the paving assessments, too! Many house owners that I know wouldn't mind if their houses were stolen if the thief stole the first and second mortgages along with it, or their mothers-in-law. However, a mother-in-law would probably have something to say about that, too!

Wally Westmore, the Max Factor make-up artist at Paramount, has turned statistician. He abandoned his make-up pencil for a real pencil to give us the following figures: "In the Sign of the Cross" more than 100 gallons of liquid make-up was used. That, he points out, is nothing to compare with the amount of make-up before the days of panchromatic film. In the "Ten Commandments," 500 gallons was required. In a year they use enough mascara to paint the entire studio black.

Make-up is like the wishing power of the alchemists. It eliminates time and space. With it the make-up artist can make age into youth or in a few minutes create a character from any part of the earth.

Here's a new word to delight the "superlative-conscious" publicity departments. It is composed of 78 syllables and 179 letters, and it is spelled "Lopadotemachoselachogaleokranileipsanoadrimupotrimmatosilphioparaomelitokatakechumenikichlepickissuphophattoperisteralekiruonoptegkepphalokiglopeleiolagoosiraobaphetraganopterugon," and it is a real word. And according to a re-

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cent article by John B. Nichols, in "Time," it is the longest word in any language. It's the name of a Greek dish composed of all kinds of dainties, with fish and fowl. That's "hash" to an American, but perhaps it could be used by one of the publicity departments. It would look fine on the front of the movie palaces.

My manager (who is also my wife) gave me a dictionary recently. I've looked up the meaning of some of the words in the box office descriptions of some pictures.

The process in motion pictures of introducing full size people into scenes with small miniatures to give the illusion that the people are in the same scene and that they are pigmies in size compared to the miniature, is done by the projection process. Conventional scenes of people are first photographed doing the required action. Then a miniature set is built up with the miniatures that are to be animated set in place. In the miniature set, which is largely glass paintings, is a glass with a portion of it treated so as to serve as a screen for a projected picture. Now the picture of the people is threaded in a projector that will throw one picture at a time, and stop between each two pictures. The projectors is set back far enough to make the projected picture of the people seem sufficiently small so as to match with the miniatures in the set. After everything is carefully matched, the first picture of the people is projected and the miniatures are posed accordingly, and then the next on to the end of the scene.

On the 10th of this month we may celebrate the taking of the first picture here in Los Angeles. The Biograph Company, while under the managership of George E. Van Guysling, sent a company here to the coast on March 6, 1906, and on June 10th, they made their first picture. As may be seen in the city directories, they were here continuously from that time on.

David Horsley founded the Hollywood film colony in 1911. Col. W. N. Selig came to the coast in 1908.

Will Connell, the noted photo pictorialist, has given the true concept of successful art. "Unless a design can



The miniature part of a set from "King Kong" before the projected portion of the picture is added. This shows the blank part that is filled in with a projected picture of real people.

The complete miniature and real life picture as combined in the Willis O'Brien process, as used in "King Kong."

be conceived that can be turned out on a conveyor belt," he says, "it's just one of those things. First a design is turned out for a commercial baron, who in turn puts it on the market, at an exorbitant first cost, for the approval of the public. If it meets the public requirements, or fancy, on this practical testing ground, the design is immediately standardized."

We have noticed that a useful, though beautifully designed icebox, is sold more readily if it resembles our neighbors'. And so forth.

#### Some Recent Engagements

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- "Air Hostess"—Columbia
- "Central Airport"—Warner
- "Turn About"—M-G-M
- "White Sister"—M-G-M

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# 16 mm.—QUESTIONS and ANSWERS—16 mm.

By GEORGE J. LANCASTER



Camera Shopping: Wynne Gibson, Paramount featured player, is being shown the workings of a miniature moving camera which she plans to buy for her mother. Virgil Miller, head of Paramount's camera department, is the demonstrator. Miss Gibson is being featured in "The Crime of the Century."

## L. A. Amateur Cine Club

The meeting of the members of the Los Angeles Amateur Cine Club was held May 8, in the auditorium of the J. W. Robinson Company store. The large attendance would indicate the interest in this subject and the spirit of co-operation and kindly criticism were most educational. J. W. Robinson Company, as hosts of the evening, provided some pleasing entertainment from their own home talent.

The subject of the evening was "Home Scenes" and some really good work was shown. However, here are some of the errors pointed out by the judges: The most frequent error was the lack of a tripod, without which it is impossible to produce a pleasing result. The absence of back lighting, leaving rather a flat surface, detracted from some of the offerings. It was pointed out that the use of reflectors for close-ups give much better results and the screen may be utilized for this purpose.

A shrub or tree in the foreground would have improved the composition in some of the scenes. One picture showing table decorations lacked interest because it was entirely of inanimate objects. It was suggested that a still would have answered as well for this particular picture as the purpose of the motion picture is to show

action. Another error pointed out, and one which the critic said was not infrequent, was the neglect of the photographer to change the aperture when switching to slow motion.

All criticism was offered in the most co-operative spirit and the attitude of the members seemed to be the solicitation of criticism rather than praise.

**Question**—Can you tell me if it is possible to record sound on sixteen millimeter film; if so, what system is used; also if it is possible to reduce 35 mm. film with sound on sixteen millimeter, also I would like to know about the 16 mm. projector.

**Answer**—To date 16 mm. is recorded by the R.C.A. variable area. Picture reduction from 35 to 16 is done in the optical printer. The sound track is re-recorded from the 35 onto the 16 and not reproduced from one to the other as in the case of the picture. Ghost or off stage narrative and sound effects with musical backgrounds can be recorded on the 16 mm.

The projector motor is equipped with an electrical governor which maintains a constant speed, for sound 24 frames per minute and for the silent versions 16 frames. The amplifier is a five tube unit of three audio frequency stages, and has a gain of two 45 tubes in push-pull with a volume and tone control. The pick-up system is the photo-cell and exciter lamp system. Provision is made for adapting a gear driven  $33\frac{1}{3}$  R.P.M. turntable to permit the use of synchronized 16 mm. sound-on-disc recordings. The sprocket holes on one side of the film are eliminated for the sound track.

**Question**—How am I to figure the speed relationships of the diaphragm markings, f.1.5 and f.1.9? What is the f value of a lens?

**Answer**—To ascertain the comparative light transmitting power of two different diaphragms, divide the square of the smaller opening by the square of the larger opening. Example—Square of f.1.5 is 2.25; the square of f.1.6 is 3.61. Divide 3.61 by 2.25, the answer is 1.61, the relative exposure value openings of f.1.5 and f.1.9.

**Question**—Several of my reels have accumulated oil and dirt. What kind of fluid shall I use for cleaning?

**Answer**—Carbon Tetrachloride. Moisten a piece of soft velvet, place the reel on the rewind and run the film between several layers. For a real job send the film to a laboratory that specializes in cleaning and polishing.

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A paint produced especially for photographic darkroom and laboratory purposes has been announced by the Eastman Kodak Company, identified with the name Kodacoat.

Kodacoat Paint was compounded to possess qualities making it useful for a number of waterproofing and chemical-proofing purposes in the darkroom and in other photographic quarters. It is non-inflammable, non-fogging, non-reflecting, acid and alkali-proof and waterproof; it resists all chemical solutions, including oxidizing and reducing agents; it contains no phenolic compounds, it will stick firmly to any dry material, it doesn't become brittle or flaky, it needs no thinning, it is quick-drying, and it is odorless.

The photographic uses of Kodacoat Paint are many. With it, tanks made of wood, stone, cement, sheet iron, copper, or tin can be made waterproof and chemical-proof. It can be used for repair purposes. Tabletops can be made resistant to acid or alkali. Walls can be finished to resist all photographic solutions. Sinks and gutters can be lined.

Hypo recovery barrels or boxes can be preserved. Darkroom floors can be made chemical-proof and can be sealed. Cement floors can be waterproofed. Funnels can be made chemical-proof. Reflections can be killed. Leather, cloth, or fabrics can be made waterproof and chemical-proof.

In addition to these photographic uses of Kodacoat Paint, this material is suitable for sealing and refinishing studio or laboratory roofs, and as a base for tile or patent floors.

Side walls or darkrooms from the baseboard up to at least six feet are likely to be spattered with solutions and should be properly protected. Although Kodacoat Paint comes in either a flat black or a glossy black, a flat black paint is the most suitable protection for darkroom walls. Kodacoat Paint, the only paint ever compounded specifically for darkroom purposes, is intended to provide complete protection.

Above the six-foot line, protection against the ravages of photographic chemicals or water is unnecessary, but a safe color is still necessary. Another new paint supplied by the Eastman Kodak Company, "Panchromatic Green," has been compounded for this purpose.

Panchromatic Green is a light green which reflects all the light possible when a darkroom is lighted with a Panchromatic Safelight or a Series 3 Safelight. If, on the other hand, the room is lighted with a yellow or a red safelight, the reflective power of the paint is still at a maximum for such a color. When a darkroom is painted with Panchromatic Green, the walls look light under the illumination of a Series 3 Safelight, and gray when the room is flooded with yellow light, but dark when red light is used.

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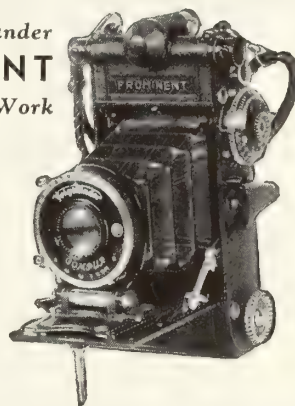
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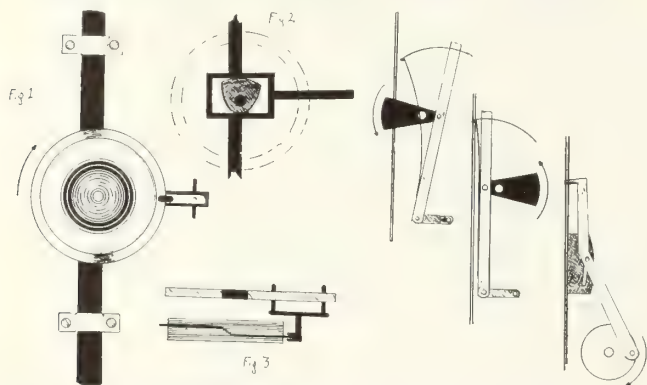
## EVOLUTION OF THE MOTION CAMERA

(Continued from Page 9)

## THE FIVE GENERAL TYPES USED IN CAMERA MOVEMENTS



Left, Friction movement similar to that used by Biograph. Right, Geneva Star used by Edison showing two positions.



Left, Cam movement (combination of harmonic and planetary cam) used by Lumiere, Pathe, Lubin, Selig, Universal, and Gillon. Figure 1 shows planetary cam for the in and out movement. Figure 2 shows the harmonic that was used for the down pull. Figure 3, looking down of the movement. Center, Spring Claw showing two positions of the movement used by Williamson, DeBrie, Moy and others with many variations. Right, Simple Claw used by Prestwich and Ernemann. Drawings by W. W. Clendenin.

Too, the cameras at this time had not attained the dignity of a footage meter. The cameraman, in order to keep account of his footage, counted the crank turns. Each turn was a half foot of film. The cameraman was, as a rule, his own assistant. Sometimes, though, the actors would carry something, if it was handed to them. The actors had not got to the point where they looked down their noses at all common things. Those that were lucky were still getting \$25 a week.

Until 1915, the most popular camera was the Pathe. It was used by many of the more prominent picture makers, including Lasky, Fox, Edison, the Majestic-Fine Arts group, Balboa, and others. The Prestwich camera was used by both Melies and Sennett; the Prevo was used in making the Laemmle pictures. That is only three of the fifty-seven varieties of cameras that have been made during the ramifications of the movies. There were others, and it may be interesting to mention a few: Akeley, Biograph, DeBrie (trade-mark "Le Parvo") DuFranne, Demeny Gaumont and the Gaumont, Darling, Farmer Dunn, Ernemann, Jury, Moy, Newman-Sinclair, Prestwich, Prevo, Pathe, United States, Selig-Schustek, and the Selig Polyscope, King-Barker, Universal (known as the Vista), Vista Amateur Model, Angelus, Williamson, Photo-Cines, Warwick, Schneider, Lubin, Vitagraph, Warner Brothers, J. O. Taylor, Talley, Moreno-Snyder (continuous motion), Penny-Packer, Schwimmer, Archer, Milano, Gillon (Camera Eclair), Kronick, Russell, Black, Urban, Cinematographe, Le-Prince, Friese-Greene, Edison, Marey, Janssen, Jenkins, Wilart, Warwick, Columbia (continuous motion), Alamo, Simplex Professional, Frese, Panograph, Messter, Depue, Koehler, Provax, Leonard (first Mitchell),

Mitchell, Bell & Howell, Horsley, Technicolor, Kelley Prizma, Multicolor (patented in 1916 by Brigden), Urban, Kinemacolor, Spoor-Bergren, Fear, Devry, and others. These for the most part were made for professional use.

The Mitchell camera, with its side shift, internal matte rings and cam movement with pilot pins was first developed in 1919. Its various features are covered by patents that were issued around 1921. The first camera was sold to Charles Van Enger in 1921, although the Mitchell had been used as early as June, 1919, by Harry Fowler. The Mitchell was an outgrowth of experiments conducted by Leonard, who made a camera and used it in making some of the "Smiling Bill Parsons" series at the National Studios in June, 1918. Very little came of the camera, however, until George Mitchell bought the Leonard rights. The Mitchell came into gradual use during 1923-24 and, after sound became popular, the Mitchell became the universally used camera in the studios.

The Mitchell is certainly a far cry from the old wooden box cameras of the pioneer days, of the days when the cameraman often shot pictures and did not see the completed picture or scenes from it until six months later. Guy Wilky says that he has made many pictures that he has never seen.

Now the cameraman gets his picture. A few years ago he was a perspiring slave, struggling under the weight of an unwieldy camera. Now assistants lend him a hand. Then he had to precariously hang to most anything to get his angle; now gigantic camera "booms" carry him here and there overhead and god-like he chooses his action and angles from the passing scenes. Through the efforts of such men as Lumiere, Pathe, Edison, Bell, Howell and Mitchell our cameramen have at their disposal the equipment that allows them to be artists.

And they *are* artists in that international medium—a language understood by all—the motion picture.

## CINEMATOGRAPHIC COMPOSITION

(Continued from Page 5)

his composition are restricted to a fixed area approximating the proportion of 1:1.4142. This is always a horizontal rectangle in so far as the theatre is concerned. This rectangle, in accordance with the basic laws as laid down by Jay Hambidge, is of ROOT TWO proportion.

Let us now bring the DISTRIBUTION, BALANCE, SCALE, RHYTHM and UNITY of tone to a focus in the phrase SEQUENCE OF TONE. That term gives us an opportunity to present DYNAMIC SYMMETRY in an equally cryptic phrase SEQUENCE OF FORM.

Dynamic Symmetry creates a composition of action which does not necessarily mean that a figure has to be in motion, but simply that the lines or masses express motion. The lines, angles and curves of our composition are regarded merely as the defining areas that compose the units of our PATTERN arrangement within the boundaries of the camera aperture.

Symmetry shows us that these limits have a direct bearing upon all arrangements of form within the boundaries of the screen. When the composition of a picture is created in accordance with this idea the result is a unity comparable to that of an organism; every part is related to every other part and all parts are definite



and more or less logical elements of the entire pattern.

It is impossible to introduce rhythm into pattern design without first introducing symmetry. All design weakness is due to poverty of symmetry and rhythm. The history of art shows beyond question that symmetry and rhythm are consciously used by artists who are real masters of composition.

If we do not understand symmetry and rhythm we can only compose blindly and trust to our "feeling." However, if we have nothing but "feeling" and disposition to rely upon we are soon left groping and embarrassed for lack of technical knowledge to overcome the simple mechanical difficulties of composition. Our vision is narrowed and our accomplishment curtailed when we do not know how to obtain compositional power.

We have in mind a "rubber stamp" type of director who suppressed the ideas of his cameraman with a loud and vulgar, "I know what I want," which he justified with the explanation, "I don't know anything about art, but I know what I like."

It is not only insufferable, but inconceivable that a business of the proportions of the motion picture industry should permit the picture values to be weakened by the likes and dislikes of men whose only claim to fame is an accidental association with a screen success, a good memory or a remote family connection to an executive.

The underlying principles that have been discussed and are to be presented do not originate with the writer. The subject matter, in great detail, has been available for many years. There are no patents, copyrights or trade secrets preventing all and sundry from gaining a ready knowledge of good picture making. Of the authorities the most important is Jay Hambidge. His books in their order of importance for a complete knowledge of Dynamic Symmetry are: "The Elements of Dynamic Symmetry," Brentanos; "Practical Applications of Dynamic Symmetry," Yale University Press; "Dynamic Symmetry in Composition," Brentanos; "Dynamic Symmetry: The Greek Vase," Yale University Press; and "The Parthenon and Other Greek Temples: Their Dynamic Symmetry," Yale University Press.

Next we have "The Art of Composition: A Simple Application of Dynamic Symmetry," by Michel Jacobs, Doubleday, Doran & Company, Inc.; "Dynamarhythmic Design," by Edward B. Edwards, The Century Co.; "Practical Pictorial Composition," by E. G. Lutz, Charles Scribner's Son; "Composition: An Analysis of the Principles of Pictorial Design," by Cyril C. Pearce, R.B.A., Charles Scribner's Sons, and "Playwriting for Profit," by Edwin Arthur Krows, Longmans, Green & Co.

(To Be Continued)

## LA BARBA

Do you know that Ted La Barba is a brother of Fidel La Barba, former fly weight champion boxer of the world? Ted, who not only is an efficient assistant cameraman, also acted as trainer for Fidel in practically all of his fights in which he successfully defended his title. Ted has been in the camera end of motion pictures since the old Triangle days and he has worked with some of the biggest stars and greatest cameramen, among whom are Tony Gaudio, George Barnes, Victor Milner, Lee Garmes, Karl Struss and the late Robert Kurrle.

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# General Electric Announces a New Improved Line of Mazda Projection Lamps

A new, improved line of MAZDA projection lamps incorporating major advances achieved during several years of intensive research and development in co-ordination with leading projector and optical manufacturers has



The larger lamp shown in the attached photograph is the new 1,000 watt, type T-20, in mogul prefocus base and bi-plane filament. The smaller lamp is the new 750 watt, type T-12, in medium prefocus base and bi-plane filament. Accompanying sheet gives essential data on the new line of projection lamps.

been announced by the Incandescent Lamp Department of General Electric Company at Nela Park, Cleveland, Ohio.

The results make possible, for the several classes of projectors, screen illuminations which average nearly twice as high as those available two years ago.

The improved line meets the expanding requirements

of picture projection by providing lamps adapted, both in characteristics and cost, to the needs of diversified services and types of projectors. This has been accomplished with a relatively small number of lamps so that the benefits of standardization in quality, price, and service may increasingly accrue to all users.

All of the lamps for motion picture projection show improvement in wattage per unit of source area, that is, in concentration of source. Means have been introduced for the better control of bulb blackening. And a marked advance has been made in the wattage for a given size of bulb.

All lamps are of the 100-volt class, obviating the expense and weight of auxiliary transformers or large resistances used in the past with low-voltage lamps. This is regarded as one of the most important practical results of the successful effort toward greater source concentration. It appears that except on the lower-priced projectors the practice will become general of using 100-volt lamps in series with a small resistance and in combination with a volt-meter, which will permit the adjustment of the resistance so that the lamp will receive 100 volts on all circuits. Thus the full advantage of the high light output of a lamp of 25-hour life will be combined with satisfactory lamp performance.

The resistance for this purpose is small, light, and inexpensive, and is not to be confused with the large resistances employed with low-volt lamps on direct-current or universal equipments. The volt-meter, also, may be of the most inexpensive type; it need be calibrated for only one point. The life of lamps which are made principally for stereopticon service, where the light requirements are

## PROJECTION LAMPS

(Recommended for Motion Picture and Stereopticon Service)

Service							
Type of Projector	Required Ventilation	Watts	Volts	Bulb	Base	Filament Construction	Rated Life-Hrs.
Film Slide, 8 mm. M.P. 16 mm. M.P.	Natural	50	100, 105, 110 115 & 120	T-8	S. C. Bay. Cand.	Monoplane	50
8 mm. M.P., 16 mm. M.P. and Film Slide	Natural	100	100, 105, 110 115 & 120	T-8	S. C. Bay. Cand.	Monoplane	50
Film Slide & 16 mm. M.P.	Natural	200	100, 105, 110 115 & 120	T-10	Medium Prefocus	Monoplane	50
16 mm. M.P. & Film Slide	Moderate Forced	300	100, 105, 110 115 & 120	T-10	Medium Prefocus	Monoplane	25
16 mm. M.P.	High Degree Forced	500	100*		Medium Prefocus	Biplane	25
16 mm. M.P.	High Degree Forced	750	100*		Medium Prefocus	Biplane	25
Stereopticon & 35 mm. Portable M.P.	Natural	500	100, 105, 110 115 & 120	T-20	Medium Prefocus	Monoplane	50
35 mm. Portable M.P. & Stereopticon	Moderate Forced	750	100*	T-20	Medium Prefocus	Biplane	25
35 mm. Portable M.P.	High Degree		100*	T-20	Medium Prefocus	Biplane	25
Stereopticon & 35 mm. Semi-portable M.P.	Forced Natural	1000 1000	100, 105, 110 115 & 120	T-20	Mogul Prefocus	Monoplane	50
35 mm. Semi-portable M.P. & Stereopticon	Natural	1000	100*	T-20	Mogul Prefocus	Biplane	25

\* 100-volt lamps recommended—for use with volt-meter and small variable resistance. Also available at 105, 110, 115, and 120 volts.

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less severe, remains at 50 hours. With this life the auxiliary resistance and volt-meter are less important.

Special forming and heat treatment of the filaments was developed to reduce warping or twisting of the coils. Thus it became possible to place the coils much closer together. A new type of supporting structure for mounting the filament contributed further to this result. The potential advantages of a biplane construction for the higher wattage equipments of each class had long been known. In the biplane lamp one grid of coils is placed before the other and so staggered that an almost-solid rectangle of light is presented to the lens. But it was not until the new filament treatment and mounting had been perfected that the full advantages of the biplane source could be realized.

Biplane construction is now incorporated in five of the new lamps, in 500, 750, and 1000 watt sizes. The cost is inherently higher but a higher wattage of filament can thereby be concentrated within the solid angle utilized by the lens system. The construction has, in general, no advantage in lamps of the lower wattages for the several types of projector since their filaments can be disposed in one plane within an area utilized by the optical system.

Reduction in bulb blackening has two important results—the light output is maintained at a higher percentage of its initial value, and bulb temperature remains lower through life. Consequently a higher wattage becomes permissible in a bulb of given diameter.

But two other factors were even more important in accomplishing the marked increase in wattage for a given bulb size. The one is an improved glass which does not devitrify and which withstands higher temperature before softening. The other is the provision of radically higher rates of forced ventilation, accomplished both by greater volume of air and redesign of air passages in projectors for maximum utilization. The result is that the designer of a projector now has the opportunity to choose among lamps requiring only natural ventilation, or moderately forced, and highly forced systems. The super lamps perform satisfactorily only in equipments in the last category.

The Bell & Howell Company has manufactured six new rotambulator camera under-carriages for the M-G-M Studios.

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**TWO THOROUGHLY** silenced Mitchell cameras. Follow focus device, Pan Astro lenses, Freehead—1000 ft. magazines. J. R. Lockwood, 523 No. Orange St., Glendale. Douglass 3361-W.

## WANTED TO BUY—CAMERAS

**BELL & HOWELL** late model 35 mm. camera—suitable for trick work—and in first class condition. Must be cheap for cash. Send all particulars to Box 105—The International Photographer.

**MITCHELL CAMERA**, fully equipped. Must be cheap for cash. State camera number and give list of equipment and price. Box 110—The International Photographer.

**WANTED FOR CASH**—Light, steady flat top tripod—Akeley legs preferred but not essential. Newsreels Dept. International Photographer or GR. 6698.

**WANTED**—One dozen 5 x 7 Graflex double film holders, must be a bargain for cash. Erickson, Box 15, International Photographer.

**LENS WANTED**—4 inch focal-length—F2.5 or faster—with or without mount. Astro or Cooke preferred. Elmer Dyer, 108 So. La Jolla, HOLlywood, Cal. WYoming 8308.

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## S. M. P. E. SEES RELIEF PICTURES

(Continued from Page 12)

a semi-transparent plane mirror which reflects them off at right angles.

At the new focus of the mirror which has been thus established, a group of images of the object are formed, one for every possible viewpoint around the concave mirror. These images are superposed, but it is possible to disentangle them, since the rays which form each one differ in the direction from which they approach the focal plane.

The discrimination between images is effected by interposing a glass screen of fine concave grooves. This breaks up each image into a series of lines spaced regularly across a photographic plate. In the space between adjacent strips of one view appears, in order, a strip from each other view, so that if one eye of the observer could see but one family of strips, it would perceive the picture as viewed from one point on the concave mirror as though seen through a grille of thin vertical wires. Precisely this effect is achieved by making a lantern slide from the plate and projecting it upon the back of the glass screen described in an earlier paragraph. It will now be understood why each eye of the ultimate beholder sees a different picture, the difference being that of beholding the original scene from two viewpoints a few inches apart. Stereoscope vision is thus attained, and those who have seen Dr. Ives' laboratory set-up have reported that the effect of depth is well marked.

To make a motion picture, it is necessary to project successively varying pictures on the screen. It will be appreciated that the minute accuracy necessary to register a fine structure of lines exactly upon a series of rods can only be secured by glass plates firmly but adjustably mounted on a rigid moving support. Dr. Ives therefore affixed his series of 32 transparencies to a rotating disc so that each plate could be separately orientated in the optical system. Since the pictures do not halt in the projection gate, it was necessary to flash a light through each as it reached the projection point. All in all, the size and delicacy of the apparatus emphasize Dr. Ives' caution that commercial application seems remote, while the lifelike quality of the moving image is convincing evidence that another milestone has been passed in the development of motion pictures in relief.

## THE INTERNATIONAL PROJECTIONIST

**THE INTERNATIONAL PROJECTIONIST**, a monthly magazine published in the interests of the projectionist. Interesting, instructive. Yearly subscription U. S. and possessions, \$2; foreign countries, \$2.50. James J. Finn Publishing Corp., 1 West 47th St., New York.

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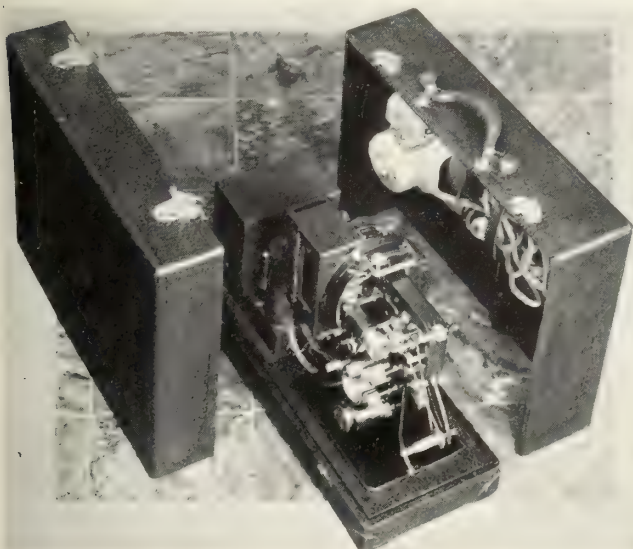


## SOUND ON FILM ANIMATIPHONE

Victor Animatograph Corporation, Davenport, Ia., announces that actual production of the new Sound-on-Film Animatophone is well under way and that first deliveries will be made about June 1st.

Except, perhaps, for the truly amazing quality of its reproduction, the most notable features of the Animatophone are its utter simplicity and its compact arrangement.

Threading and operation are no more complicated than with a silent projector. The sound head, comprised of exciter lamp, lens, sound gate, photo-electric cell and threading rolls, is side-mounted on the support base of the projector and occupies a space of only  $2\frac{1}{2}$ "x $4\frac{1}{4}$ "x6". The highly developed amplifier (5 tube) is mounted at



the rear of the projector and occupies a space of only 6"x7"x8". Auditorium speaker and 50-foot cord are housed in a removable side of the projector carrying case. The entire equipment in carrying case weighs only fifty pounds.

Many months have been spent in perfecting the S-O-F Animatophone and it is claimed by Victor that several optical, mechanical and phonetic features have been developed which have made possible a quality of reproduction that was un hoped for in the beginning. The high frequency range which has been attained appears to be a particular source of pride to the makers. The clear, natural quality of the sound is nothing less than a revelation, and it appears to be entirely free of waver.

Sound volume and picture illumination are sufficient for comparatively large school and church auditoriums.

It is understood that this initial model of the S-O-F Animatophone (which is surprisingly low priced) may be followed with a "Blimp" model, and possibly a combination model which will include the sound-on-disc equipment of the original Sound-on-Disc Animatophone.

The Animatophone will run silent as well as sound film.

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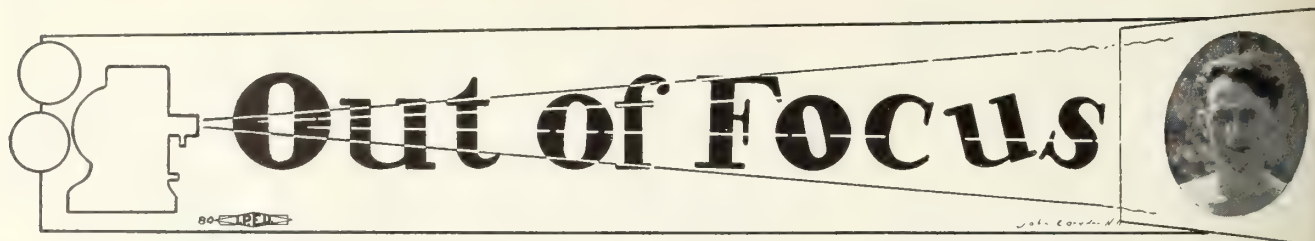
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### QUICK ACTION NEEDED



*This unusual view of bird life brings to you vividly, what might happen when word goes out that Warner Brothers will re-open their studios.*

Numerous plans have been put forward to correct the unemployment situation, but the fact remains there are too many men out of work. President Roosevelt could correct this condition, but it will be sometime before he will be able to come to the coast. In the meantime I would like to present a plan. One plan is just as good as another, especially when you know it will not be used. This idea, I am sure, will meet with the approval of our organization, but I doubt if the studios will favor it.

I gather from the newspapers that at the present time we have two classes of workers. Those that are working and those that are not working. Those that are working work too hard and those that are not working do not work hard enough. The first thing to do in this case is to find a happy medium. This can be done in the following manner by making the work easier for those that are working and making work for those that are not.

For every unit have two first cameramen. For every first cameraman have two second cameramen. For each cameraman have two assistants. This is just the beginning, but you can see how it will help things along. In addition I would suggest, if permitted, the following to be assigned to each unit. One load upper, one unloader, one oiler upper, one wipe offer, one lens cleaner and looker through, one racker over, one setter up, one knocker down, one pan upper, one tilt downer, one tape taker out, one tape bringer back, one follow focuser, one director cusser, one belt feeler, one thread-up look atter, one buckle listener, one "camera's ready" shouter, one script girl talker to, one chalk carrier, one mark feeter, and one "lights" hit and killer.

This will take care of quite a few people and will soon have the wheels of industry humming again and, in the event there were still some men out of work, we could place several with each unit to stand around and tell how they would light the set if they were doing it.

I have not thought of a name for this plan and hardly think one is necessary, but remember if you suggest one, via mail, it is a postal offence to use obscene language through the mails.

### RIBBING A RIBBER

Mickey Whalen went into Sardi's the other day and asked for a cut of rare roast beef with a rib. The waiter brought it in and presented him with a check for \$3.50.

"What's the idea of this check," asked Whalen.

"That's the 'rib,'" replied the waiter, as he picked up a \$1.00 tip (that the preceding guest had left).

### WHAT'S HER NAME?

There's a cutter named DORRIS,

Who's quite often sought,

And I'll know that she's for us,

If we have beer on DROUGHT.

### BREAKING INTO BUSINESS

Passing a store the other day at 1515 Cahuenga, I noticed a man knocking a hole in the brick wall. Through the cloud of dust I recognized Faxon Dean. He explained that he was opening a Camera Rental and Supply Company and that the hole would become a door, to enable his customers to drive into the parking place in the rear to load equipment. Not a bad idea, but the way business is these days every store should have a rear door.

### DO YOU KNOW

That Hulbert Cosmo (Bert) Lynch has the distinction of being one of the very few people that were permitted to fight after the armistice was signed. He was a boxer with one of the welfare organizations.

That our Mrs. Lincoln, Hal Mohr, Jerry Ash and George Lancaster were school mates (in different schools) in Cow Hollow (San Francisco to us) some time ago.

That Herb Aller's (Asst. Business Mgr.) office is referred to as the confessional.

That the boys in the recreation room are doing their bit towards helping business pick up. They are now playing Russian Bank, which requires two decks of cards.

That Otto Himm sang in a quartette, on the stage, for two years and then went with Selig in 1906.

That Sid Hickox rated Chief Photographer in the U. S. N. Air Service and was with Biograph in 1915.

That Henry Kruse saw his name on the screen for the first time recently. He was given screen credit for the musical score. Yep! In the Scandinavian.

That Jackson Rose used the first Bell & Howell camera on production. Argue with him, I'm busy.

That Dwight Warren was born at Eagle Rock and has been with Educational for years, regardless.

That Harry Perry and Vernon Walker are ex-punchers from Colorado. They punched tickets in the office of the D. & R. G. Railroad.

That for two dollars (at the present time) you can have this magazine sent to man, woman or child for 12 issues and I'm sure they will like it. Subscription blanks in each copy.



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JULY 1933

VOL. 5  
NO. 6




5 CENTS  
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COVER BY BERT LONGWORTH

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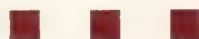


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MOTION PICTURE ARTS AND CRAFTS

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A Monthly Publication Dedicated to the Advancement of Cinematography in All Its Branches; Professional and Amateur; Photography; Laboratory and Processing, Film Editing, Sound Recording, Projection, Pictorialists.

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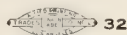
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This Magazine represents the entire personnel of photographers now engaged in professional production of motion pictures in the United States and Canada. Thus THE INTERNATIONAL PHOTOGRAPHER becomes the voice of the Entire Craft, covering a field that reaches from coast to coast across North America.

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## A Few Good Things in Our August Edition

Herford Tynes Cowling will resume his interesting trip AROUND THE WORLD. This time he leads us along "The Road to Mandalay."

Karl A. Barleben, Jr., F.R.P.S., will take us "Flying with the Leica Camera," accompanied by Clarence Chamberlain and Ruth Nichols.

Paul Perry will tell of his recent location work in Ceylon and of photographing the Sultan of Solo.

Ray Fernstrom will be back with his first installment of The Newsreel World from Europe. Don't miss it.

Earl Theisen, Honorary Curator of Motion Pictures for L. A. Museum, our clever historian, will present you with an amazingly interesting story of the Screen's most famous woman—that immortal artiste, business woman and American institution—Mary Pickford.

"Aerial Photography," by Lieut. R. S. Marcum, U. S. Air Corps, Commanding Officer First Photo Section, Brooks Field, Texas. Contributed by John L. Herrmann, Paramount News, Local 644.

Emery Huse and Ned Van Buren offer Part II of their comprehensive series on "Light Filters from the Cinematographer's Viewpoint."

Mr. Geoffrey Hodson, noted English lecturer and author will present an intensely interesting article on that fruitful subject, "The Fourth Dimension."

## OUR COVER FOR JULY

The attractive still which makes up the front cover of the current edition is the contribution of Mr. Bert Longworth, of Warner Brothers—First National. The subject chosen by Mr. Longworth is a scene from "The Footlight Parade," a beautiful opus now in process of production at the San Fernando Valley studios. It is a between scenes shot with the technical crew entirely at the service of the still man. Among those present on the set are Busby Berkeley, director; Sol. Polito, chief cinematographer; Mike Joyce, operative cameraman; Louis De Angelis, assistant; Geo. Whittemore, electrician; Geo. Amy, film editor; Billy Cannon, assistant; Ollie Garrett, sound engineer; Harold Noys, grips; Gene Delaney, props; Irva Ross, script. To the right of Mr. Polito, who is leaning on the camera tripod, is Ruby Keeler, star of the musical sequences of "The Footlight Parade," photographed by Mr. Polito. Mr. George Barnes is photographing the dramatic sequence, featuring Joan Blondell and James Cagney.





# WONDERS OF INFRA RED

**For the First Time This Strange Film Is Taken Above the Clouds in Motion Picture Work**

**By ELMER DYER**



Elmer Dyer, aerial cinematographic ace in his flying togs. Note camera mount.

For the first time we have taken Infra Red film above the clouds in motion picture work for motion picture producers. After making exhaustive tests and experiments with the film we had on hand, which was a super-panchromatic, it was impossible to secure the results the director wanted and, until the time I had used Infra Red, we had not been able to get results that showed a moonlight effect. We

got some very good night quality insofar as looking like night, but nothing like brilliant moonlight night.

The heads of the different departments at M-G-M were skeptical as to whether they should be able to let the sequence go through in the picture "Night Flight." After spending several hours with the director and getting his idea as to what really was wanted I was convinced that I could arrive at the effect in some way.

Having had experience with Infra Red in a picture I had worked on with Hoot Gibson, Harry Neumann, chief cameraman, I had a fair idea of what to do with the film and although I had not said anything about that type of film to anyone around the M-G-M lot I had it in mind in the event I ran into insurmountable difficulties with our regular film.

When I first came upon the film it was introduced to me, as aforesaid, by Harry Neumann. He gave me a roll of it and handed me a filter which to me seemed practically opaque. I thought it was a gag and said: "You might as well give me a piece of burlap to shoot through."

I asked him if he wanted to get me kicked off the job. This produced several laughs, but I was told to put the filter on, pull everything wide open and shoot. The reader may imagine my embarrassment when I got into the projection room and saw the beautiful stuff I had made, for this film has surprising qualities for certain effects that cannot be obtained in any other way.

Great distances can be covered if the proper filters are applied and the proper exposure given. I do not claim to be an authority on this film, but my last experience has caused me to be very enthusiastic and as I go along in this business I am the more convinced that there is nothing impossible in the way of effects to be produced through the medium of film in a motion picture camera.

For many years I had tried to sell to some director or producer the idea of making a night sequence above the clouds. Everyone had always given me the same answer—he did not think it could be put over—so when I came upon that M-G-M story and was told that the whole sequence rested upon the beauty of the photography, that it was straight flying and no stunting and that it had to be done to convey an idea of beauty in moonlight effect I told Mr. Clarence Brown, the director, that he was throwing something in my lap, as here was something I had wanted to do for years and that I was immensely pleased to get the break.

I must say that the co-operation I was given by the heads of various departments at M-G-M is certainly worthy of comment. I was accorded every possible support by all concerned. But knowing that the department heads were skeptical and that all eyes would be focused on the film I would bring back, rather than making me nervous it gave me an incentive to fulfill a long cherished ambition. Now, I don't mean to convey that this film is anything new or different or that I am the first one to use it, but I do mean that I have demonstrated a new angle on aerial photography which naturally will open up a greater field for beautiful scenes above the clouds.

In making these scenes I found out that I could get great distance. Some clouds were recorded by the camera that were easily 150 to 200 miles away from the scene we were actually photographing. Upon this occasion I was flying at an altitude of 10,000 feet, approximately, over Lake Elsinore, between Riverside and San Diego, which I roughly estimate to be a distance of about 55 miles.

Before making the scene I took a look at the background to be sure there was no earth showing, because we were supposed to be far above the clouds in the moonlight. There was no sign of earth and no holes in the



Mr. Dyer scouting for locations high above the clouds in Colorado.

clouds. All that was visible was a misty, hazy background. To our amazement when we finally ran this film the following evening in the projection room with the director and several department heads present, there was the bay between San Pedro, Wilmington, Long Beach and the Palos Verdes Hills—and they were very clear and distinct.

An Infra Red filter and Infra Red film had cut away the mist and haze and opened up an entirely new view for the eye of the camera. Of course, I was chided by the

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[Mr. Harry R. Lubcke, the efficient director of television of the Don Lee Broadcasting System, was born in Alameda, California, August, 1906. Educated at the U. of C., B.S. degree. Writer for radio magazines 1922 to 1929. Asst. Director of Research Television Laboratories, Inc., San Francisco, 1929-1930. Member Institute of Radio Engineers, Phi Beta Kappa, Tau Beta Pi, Sigma Xi. Married to Dorothy Jane Porter. This interview with Mr. Lubcke is illuminating and important to everyone interested in television cinematography, radio and the theatre. Cameramen, especially, will take notice. In this connection Mr. Don Lee deserves immense credit for his pioneering in television on the West Coast, a work pursued with fine intelligence, courage and at great expense without return.—Editor's Note.]

# TELEVISION

## An Interview

Answers by **HARRY R. LUBCKE**

### 1. What were the beginnings of television and when?

Ans. The beginning of television can be most nearly identified with the invention of Nipkow of Germany of his "Electrical Telescope" on which he received German Patent No. 30105 in January of 1884. This invention gave the world the scanning disk to which television has been wedded in some form or another almost to the present day, as well as the fundamental idea in picture transmission of cutting the scene into narrow strips and sending one after the other successively, to be re-assembled into the original picture at the receiving station. Eckstrom in his Swedish patent No. 32220, February, 1912, disclosed the flying spot method of television which has enjoyed considerable use.

The Bell Telephone Laboratories and groups in Germany and elsewhere gave the first demonstrations of what might be termed present day television in 1927. Nipkow and Eckstrom lacked many necessary devices for the carrying out of their ideas, among which were the modern photo-electric cell, the modern radio vacuum tube, and the modern television lamp.

### 2. Who owns and controls the basic patents on television if there be any patents?

Ans. The patents on the basic processes of television have expired and the art at present is founded on patent-free fundamental principles, although there are many patents concerned with the refinements and apparatus necessary to producing workable television. These are held by the Radio Corporation of America group which includes General Electric, Western Electric, and Westinghouse; by Farnsworth, of Philco, by our own group, and by others throughout the country.

### 3. What were the beginnings of television development on the West Coast?

Ans. Television Laboratory work was started in San Francisco in 1927 under the direction of Philo Farnsworth who, since 1931, has been associated with Philco in Philadelphia. This work was of purely a research nature and was not broadcast. The Don Lee Broadcasting System started television research in late 1930 and by late 1931 W6XAO, the ultra high frequency transmitter was broadcasting television images on a regular schedule.

### 4. What has been your part in television evolution here in California?

Ans. The work of W6XAO continued, and by May, 1932, the first television image ever received in an airplane was transmitted from this station and received in a Western Air Express tri-motored Fokker plane, flying over the city of Los Angeles. A new cathode-ray type television receiver, developed by the Don Lee organization, was used, and made the reception possible, in that it would operate and remain synchronized when away from power mains common to the transmitter.



Harry R. Lubcke, Director of Television of the Don Lee Broadcasting System. Showing installation of Television Receiver in aeroplane.

On the first anniversary of W6XAO's initial broadcast, the 1000 watt television transmitter W6XS was put into operation. This transmitter being of greater power was heard generally throughout the coast and Nation and by January, 1933, its images had been received across the continent in the state of Maine. Television pictures of the damage done in the recent earthquake were broadcast by W6XS and W6XAO as soon as films taken in the stricken area could be rushed to the television equipment, presaging handling of news events





A quiet day on the set at R-K-O during the filming of the comedy-drama "Rafter Romance," featuring Ginger Rogers, above left and Norman Foster right of center above. William Seiter directed; David Abel, cinematographer; Charles Bohny, assistant; Hugh McDowell, sound; still by Alexander Kahle.

in the future when television becomes more common. W6XAO and W6XS have continued to transmit television images on a regular daily schedule since their initial broadcasts, sending out close-ups of movie stars, news reels, shorts, and other material. This continued service has aroused public interest in the reality of television which at the present time is being manifest in a demand for receiving equipment and the construction of same by those qualified.

**5. Please give me a brief sketch of your work in television.**

Ans. My work in television started before I had graduated from the University of California in the summer of 1929. I was asked by Philo Farnsworth to undertake a special problem in connection with his work in San Francisco, and later became associated with his organization as Assistant Director of Research. When financial stringencies caused a complete shutdown of the laboratory, I came south and started television activities for the Don Lee Broadcasting System.

**6. How far around the corner is commercial television?**

Ans. This is, perhaps, one of the most embarrassing questions that can be asked to one closely connected with television. Many experts have already become false prophets and those that are left are wise enough not to give an answer. I believe, that television is not coming around a corner, but by a long gradual curve, and that some day it will be upon us without our having realized that it has arrived. I expect that the development will be gradual, and that although there will be landmarks and days on which the public talks more about television than others, its acceptance will be a gradual process. The Federal Radio Commission has, of course, ruled television experimental and until that ruling is changed, the transmission of sponsored programs is impossible. Just as radio broadcasting was changed from an experimental basis to a commercial basis and all the stations lost their number prefixes and took on Ks and Ws, as

KHJ and WABC, so some day W6XS and W6XAO will become K this and K that.

**7. How long before a system of television can be evolved that will equal in a general way the present status of radio broadcasting?**

Ans. About twice as long as it will take to come around the corner. After television receivers are available on the market, public acceptance and familiarity with them must be built up until they are willing to make the necessary expenditure to put one in their home.

**8. Will the time ever come when television receiving apparatus will become as cheap and efficient as radio receiving sets are now?**

Ans. Yes. Television receivers are now higher priced than radio receivers because many of the components thereof have not been reduced to quantity production. When this has been accomplished, there is no reason why they cannot be as reasonably priced as the good radio receivers of today.

**9. What will be the effects of commercial television upon the stage—the motion picture theatre and industry in general?**

Ans. I believe television will find its sphere of activity as a home entertainment and as such will not directly compete with the stage or motion picture theatre. It will, undoubtedly, change the type of presentation that we will go to the legitimate and the motion picture theatre to see. Many people believed that the telephone would destroy the usefulness of the telegraph, but we all know that this was not the case. The telephone restricted the field of the telegraph because it handled certain situations in a better way, but they both enjoy a proper field of activity at the present time.

The attraction of a crowd will still cause the American public to go to the theatre and the attraction of the living presentation will cause the stage to survive for all time. Football stadiums are still filled by folks who want to be there, although they could probably find out more about what was happening by staying home and listening to the radio.

There is no doubt that television will help industry in general by creating, as it will, a new industry.

When television has reached its full stature it is entirely possible that, with radio, it will leave its present studios and emerge, full fledged, upon the stage. The radio-television performance of that day will be so nearly a vaudeville performance or play, that it will draw a paying house in its own right. Many will come to see their favorite stars perform in person.

At even a later date I look for a Renaissance to the legitimate stage, when, having reached the ultimate in mechanistic entertainment, we will return to an appreciation of the pure art of the stage. I believe that the stage has the strongest future position of any of our present day theatrical enterprises. Television and radio by that time will have become necessities of life as we will care to live it.

**10. Will television reception in the home ever equal the motion picture in smoothness of detail and beauty?**

Ans. Yes. Motion pictures now give more detail than can be appreciated by the eye. When the psychological limit of appreciation of the eye is reached by television, it will be on a par with the motion picture. Just where this limit stands is open to some doubt, but a picture of 200 or 300 lines will probably come close enough to a perfect presentation to be taken as such.

**11. In television reception, are sound and vision simultaneous as in sound pictures in the theatres?**

Ans. Yes, if facilities are provided for both. If a human subject is being televised, a microphone and its accompanying channel of communication, as well as television camera and its channel of communication, must be provided from the location of the scene to the viewer's home. This is generally provided by two special channels of communication, such as a broadcasting station carrying the sound and a television station carrying the

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# AKERS' FEATHERWEIGHT CAMERA

By IRVING AKERS

After two years of experimentation on his featherweight camera, Irving Akers is pushing work on his market model. The flying cameraman expects the completed equipment will be in his hands by July 1. It will be the fifth of its line, and with all its accessories, such as motor and magazine and 200 feet of film, will weigh approximately ten pounds. That is a pound and a half more than the fourth experimental model, the added weight being designed to supply abundance of rigidity to the final product.

When it is considered the electric motor will weigh three and a half pounds and the magazine and film two and a half the better will it be understood what Akers really has achieved with his four-pound camera. The instrument, by the way, will be equipped with standard Mitchell mount lens and with direct prismatic upright focusing device.

One of the objects aimed at by the inventor was the securing of a camera so light that it could be mounted on the tail of an airplane and yet permit pilot and passengers to survive a self-created tailspin without undue hazard. There is a limit to the weight of impedimenta that may be annexed to the tail of an airplane if the pilot plans first to precipitate a tailspin and then successfully to navigate his ship out of it.

The Akers camera has been silenced for sound. To this end the inventor has aimed to make possible its use without a blimp at a distance of six feet from the microphone.

Interesting to cameramen will be the fact that the camera may be mounted on a 16mm. amateur tripod. The driving motor is interchangeable with the ordinary synchronous motor for sound work.

Strong claims are made for the camera for the purposes of newsreel men and explorers as well as for action or aerial pictures, trick effects shots or on the many occasions in cramped quarters when use of a standard camera would be impossible. It is said to be the only electrically motor driven hand camera equipped with precision registration pins.

For spectacular or unusual airplane shots the camera may be mounted on airplane tubing six feet above the tail or six feet off the wing tip either fore or aft. In the case of either of these set-ups the camera is operated by wires controlled by the cameraman in the cockpit.

One of the great advantages of the remote control positions, in picture work especially, is the fact the camera may be panned the full circumference of 360 degrees, showing not only the pilot on the same ship but also planes in front and to the rear as well as on each side.

Through the two years of experimental work Inventor Akers has been materially aided by Ray Johnson, motion picture director of Hollywood. R. E. Carpenter, member of the sound men's organization, has collaborated with the inventor in perfecting those factors pertaining to the recording of sound.

Mr. Akers has been affiliated with International Photographers in Hollywood for several years and in Chicago prior to that. His first work in motion pictures was in 1914 in and around the Essanay studio in Chicago. In the latter city in the old days he did commercial as well as production work.



No. 1—Close-up of Irving Akers in airplane cockpit with experimental model of featherweight camera unmounted.



No. 2—Camera mounted on wing tip showing its possible field of vision when operated by means of wires controlled by cameraman in cockpit.

The flyer-cameraman was the first aerial newspaper photographer in Chicago. And right there on that particular peg hangs a tale that will interest all news men whether of films or ink as well as all cameramen.

The inventor so far as known is the first person to have developed photographic plates using an airplane in flight for a darkroom. Also so far as known he is the first person to have lifted from the ground any object into a flying plane.

One striking instance, and possibly the very one in which the double record was established, was following the Notre Dame-Michigan State football game at Ann Arbor a dozen years ago.

The cameraman was flying over the field, piloted by Eddie Stinson, now passed on, and shooting what looked good to him. Down on the ground Detroit News photographers had been making stills. Twenty-four plates were packed into pillowcases the mysterious disappearance of which was noted the same day in a nearby hotel.

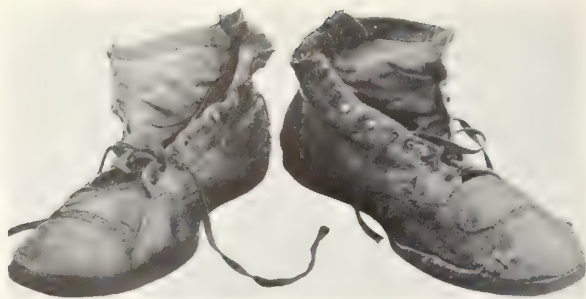
The loaded pillowcases were suspended on a line between two long bamboo poles. That was the signal for Akers to get set with a grapnel hook suspended at the end of a rope. Eddie gave his ship the gun and set sail for the ground the while the cameraman leaned away out over the side with none too secure a foothold.

By reason of much skill on the part of the flyers and a measure of good luck the hook caught and the plates were hauled aboard. Seven minutes were devoted to development. In less than twenty minutes after the hook had connected with the pillow-cases all the plates with the exception of one broken in the fall had been safely landed on the roof of the News building. An improvised parachute was responsible for that phase of a novel newspaper beat.

The story runs that within less than an hour after the last shutter had clicked on the field the News was on the street with a couple of pages smeared with football pictures. The News paid the flying photographer \$250 for the job.

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Who will fillum when he is gone?



Like pilgrims arriving at a shrine, people come from all parts of the world to Charlie Chaplin's gate. Here they arrive early in the morning and at times wait all day with the hope of seeing their Charlie.

When it becomes known that Charlie will be a guest at a home, people, not just one or two but dozens, unashamedly climb over fences and brazenly look in windows. They permit no obstacles to stand in the way of a possible chance to see him.

That truly indicates the regard the world has for the little wistful man with the tight coat and baggy pants. What person does not love him and his so-hard struggles (on the screen) to be nonchalant and unbothered?

Though the Chaplin Screen Personality is known to the farther corners of the world, very few know him in real life. His home sits like a feudal castle on a hill; a symphony in grey, in what is the grimly exclusive part of Beverly Hills, on Cove Way. It is a neighborhood of high fences and iron gates that are always locked; it is a neighborhood for those who have gone beyond the stage where public acclaim and attention is

# CHAPLIN

By **EARL THEISEN**

*Honorary Curator Los Angeles Museum*

fascinating. Here Charlie lives not for the distinction of being pointed out, but because he wants peace from the continual attention the world bestows upon him. He is considered public property and the masses who have made him their idol want to look in on him. Neither Poe, nor Dante, could have devised a greater torment than the interminable favor of the public. Of Chaplin it has made a near recluse.

Charlie was born in Walworth, in Surrey County, South London, on April 16, 1889—the same year that Edison demonstrated the first motion picture. That was forty-four years ago and with the exception of the first few minutes Charlie Chaplin has been an actor ever since. Both his parents were musical comedy stars. During the nineties it was the occupation of "good fellows" who needs must spend their small earnings to maintain their standing; hence, when Charles Chaplin, the father, died, the family was left in poor circumstances. His mother, Lillian Hurley, had to provide for little Charlie and his brother, Sidney, which she could not always do. For a time the two children were placed in an orphanage in Hanwell, North London. Young Charlie tried to help financially by going about taking pictures with a cheap camera. He would finish the pictures himself and sell them for 3 to 6 pence.

The scarcity of money in Charlie's youth and his boyhood struggles for a living have given him an indefinable mellow sweetness, a pathos that has made his screen per-

No. 1 and 10 are from the "Gold Rush."

Nos. 3, 4, 5, 6, 7 and 9 are from scenes in "The Circus."



The "Gold Rush." Chaplin is at the camera and his cameraman, Rolli Ötheroh, is looking on.



sonality so lovable. While young he had to work hard; in mature years his attention to work did not wander. Money did not interfere with his career; he did not have to crawl away from under piles of money in order to see what he wanted. As an outgrowth he became quite frugal; in fact, there is a tradition that he still has his first dollar; but that is wrong. He has many dependents and today, even though his studio is not operating, he spends each week as much as \$1500 for studio salaries alone.

Recently a "fan" magazine published an article to the effect that even though Chaplin is rich in money and fame, he is lonely. This brought a deluge of letters, some demanding, some pleading, still others asking for his excess change. Many people told of their own loneliness. One woman wrote that she was lonely, too, and poor! However, she was certain that \$5000 would dissipate her loneliness. Could he send her this amount by return mail? There were other letters from people in all parts of the world asking for work. There were letters from those who think they resemble Charlie; hence they would like to double for him, particularly at social functions that he does not wish to attend, or if he needs a double with a strong arm he should just let them know by return mail.

Fond mothers write about their son, "Give my boy a chance—the neighbors all say he's better than Jackie Coogan." There are threatening letters from cranks; there are love letters, too!

One woman in the Middle West wrote asking him to send some money—the children, her's and Charlie's, were crying for their father and she was in desperate need. This woman became so insistent in other letters that she was investigated and found to be a poor old demented colored woman.

If statistics could be gathered, it would not be surprising to discover that he had been asked to send money to pay off mortgages on every fifth home in the United States.

Wealthy people send him jewel-encrusted trinkets, watches having cases cut from crystal or inlaid with pre-

No. 8, Charlie Chaplin and Ben Turpin in "A Night Out" which was taken at the Niles Essanay Studio.



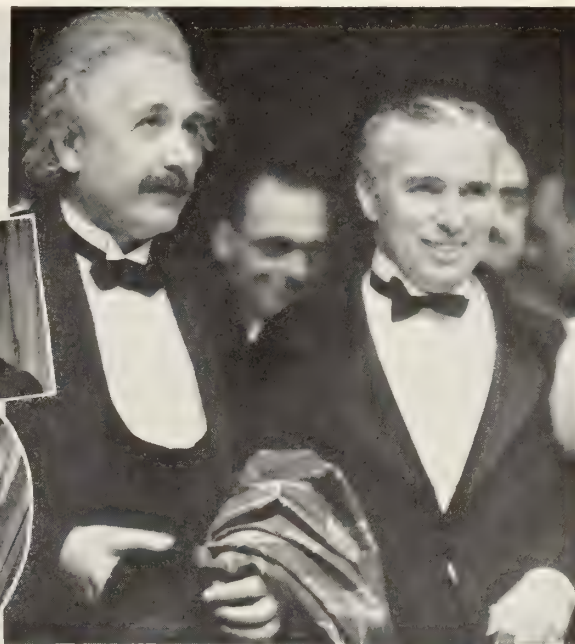
How the third person in a crowd should look.

cious stones; others send examples of their handicraft. Others send sketches that are to be autographed and then returned to the sender. And a host of others having ulterior motives of a motion picture career until now to "get at" him is not easy.

If Charlie Chaplin's intimate friends, who never met him, were laid end to end they would reach from here to Moscow, or a mile or so beyond.

All this, coupled with a youthtime of hard work, have made of him a retiring and sensitive person. The understanding and sympathetic portrayal on the screen of the truly human characteristics are denied him in his daily life. He must continually be on guard against imposition, which to a sensitive and poetic person is distasteful and harrowing. Now he prefers solitary excursions to places where life is untainted by the knowledge of his identity, that he might enjoy an additional freedom. He prefers the company of a ragged youngster with a pinched face—a face made wistful by trouble; a youngster who knows

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Dr. Albert Einstein and Charlie Chaplin at the preview of "City Lights."



how to sell newspapers and who knows of the trouble in being caught playing "hooky."

Often he will take a can of sardines and go into the hills on lonely excursions, or walk down the boulevards, looking neither to the right nor left. He came to fame



"Charlie Chaplin, he has the wistfulness of . . . a little fellow trying to do the best he can."—Time.

with such large strides that he has had no time to encase himself in a protective armor.

However, when he wants to play as is to be seen by his new friends in those whimsical moments when his eyes light up. Then most anything may be expected of him.

He was discovered for the screen in the summer of 1913 by Adam Kessel, of the New York Motion Picture Company. Kessel stopped in to see the bill at Hammerstein's on Broadway. As Terry Ramsaye says, "a most amusing little cuss" in a skit entitled "A Night in a London Club," attracted Kessel's attention and wrung a laugh from the weary motion picture magnate. Kessel went backstage and offered him \$75 a week to appear in Keystone Comedies which were being released through the New York Motion Picture Company. However, Chaplin felt he was doing nicely on the stage and he still remembered his hard days. Besides he had heard very little about the picture of which Kessel talked so glowingly.

Chaplin had been cast in Karno's "A Night in a London Club" by Alf Reeves in 1910, in London. Reeves was the manager of this Karno show which had been traveling in the United States and he had returned to London for a new cast. When Reeves saw Chaplin who was playing a juvenile part in another Karno show, "Jimmie, the Fearless," he asked for Chaplin's transfer to his company.

When the cast was complete for the new show it included, beside Reeves and Chaplin, Stan Jefferson, who is now the Laurel half of the Roach team of "Laurel and Hardy."

Chaplin considered it a stroke of good luck to be cast with Reeves, since "A Night in a London Club" had been showing continuously. The play had been originated in 1903 by Alf Reeves' brother, Billy Reeves, and it is of interest to note in passing the play has been showing in London from 1903 until recently.

In the meantime Kessel had raised his original \$75 offer to \$150. This was tempting to Charlie. Reeves

encouraged him to accept since it was just twice the salary Reeves could afford to pay. Charlie finally agreed to sign for Keystone Comedies upon the expiration of his contract, which was in November, 1913, upon the combination of the Karno booking at the Express Theatre in Los Angeles.

Mack Sennett, who was directing for Keystone, met Charlie and signed him for a motion picture career. That was a day of achievement for the screen.

His first appearance before the camera was in various small bits which were photographed by Henry Vallejo for Mack Sennett. It is said that Mack Sennett, at first, doubted Charlie's abilities.

His first complete picture was released on February 2, 1914, as "Making a Living," and was directed by Mack Sennett. In this picture he did not wear his now famous make-up; but instead wore a long mustache, gray frock coat and a top hat. He played the part of a penniless though jaunty adventurer.

The second picture was "Kid Auto Races at Venice," released on February 7, 1914. This was the first picture in which he introduced the tight coat, baggy pants and "Chaplin Shuffle." In the next few pictures he varied the size of his mustache slightly, and in "Mabel at the Wheel," released on April 18, 1914, he added a small chin whisker, or goatee, to his make-up. Mabel Normand played with him in this picture.

"Tillie's Punctured Romance" was the first six reel comedy. In the cast of this feature length comedy, besides Charlie Chaplin, were both Mabel Normand and Marie Dressler. Mack Sennett started work on it in April, 1914, and finished it fourteen weeks later. This comedy picture was a boon to the industry at this time when most all pictures were short and the actors "lousy."

By this time "Charlie" was a household word. In France he was known as "Charlot," and in Spain, "Carlitos." All countries had pet names for him and his shuffle was known everywhere. When war was declared in August, 1914, there were just two things in the papers; the war and Charlie Chaplin. Alf Reeves, in England at this time, says the ragamuffin snotty nosed kids in the streets of London all tried to mimic Charlie and they improvised songs such as this parody from "Red Wing":

"Oh! the moon shines bright  
On Charlie Chaplin,  
His shoes are cracklin'  
For want of blacklin."

Mind you, this was just seven months after the release of his first motion picture. He was talked of and conjectured about then just as much as the advent of "beer" recently.

Upon the expiration of his Sennett-Kessel contract with the New York Motion Picture he signed with "Broncho Billy" Anderson and George Spoor of the Essanay Company on January 2, 1915, in Chicago. This contract designated a salary of \$1250 a week, which by the way was quite an increase. However, it was hardly more than small change compared to the next contract that he signed with John R. Frueler of the Mutual in February, 1916. This contract was for a weekly salary of \$10,000 for a year, with a bonus of \$150,000 at the completion of the contract. That was a total of \$670,000 for a year's work.

Theatres everywhere were demanding Chaplin films; some show houses had them in every program for years. In fact, one little theatre, the Crystal Hall, on Fourteenth Street in New York, showed Chaplin pictures from 1914 until the house burned down in 1923—only missing one week in the nine years. His pictures were duped and stolen. Prints that were sent to Europe for foreign the-

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# Real Raids by Bold Chinese Pirate Queen to Be Brought to Screen

No. 1—Aleko E. Lilius, American journalist and author, on board Lai Choi San's private junk, at the beginning of his adventurous trip through the waters of Sin Kiang, Maceo and Hongkong. About his adventures Mr. Lilius wrote a book, "I Sailed with Chinese Pirates," recently published by Appleton, New York, and it has already been translated into many foreign languages.

It's a far cry from real pirates to Hollywood and yet not so far either. Pirates are facts in China and Hollywood is a fairly well exploited town.

It needs, therefore, only somebody or something to tie them together and that seems to have been done by Robert Miller, member of the International Photographers, Local 659, at present on leave as an industrial photographer aboard the S. S. President Hoover, with regular sailings from San Francisco to the Orient and return.

On a recent trip Mr. Miller fell in with Aleko E. Lilius, author of the sensational book, "I Sailed With Chinese Pirates," the only white man to be given that privilege, according to Mr. Lilius.

For a long time the author sought to ingratiate himself into the good will of one Lai Choi San, the only woman pirate of China, or of the world, so far as Mr. Miller knows, and at last he succeeded—as please note. Picture No. 1, herewith, shows Mr. Lilius in conventional pirate costume and No. 2, Miss Lai Choi San, herself, the lady holding the gun in her left hand.

In picture No. 3 note the forward deck of Lai Choi San's flagship with at least seven cannon in sight—a nice place to serve tea and play bridge on lazy afternoons between seizing prizes on the dear old China Sea.

Picture No. 4 exhibits the masculine charms of a few of the guard of honor of the gentle and lovely Lai Choi San. These gentlemen are not as genial as they appear, but they are efficient in action, according to Mr. Miller, who adds that the gentle art of piracy has not in the least suffered by the world depression. Business, if you ask Lai Choi San, is good as usual.

And now, here comes the big surprise—Lai Choi San is going to become a motion picture star.

A series of shorts are to be made depicting the daily life of these pirates—real pirate stuff with raids and everything and Mr. Miller is now engaged in negotiating a release for them.

These birds of prey, he says, are due for a cleaning as soon as China and Japan quit fighting among themselves and have time to pay a little attention to them.

Don't get the idea that Mr. Miller is going to turn pirate. Cameramen are not like that. All he is going to do is to crank the camera while the gentle and thrice lovely pirate queen and her merry men go through the motions of shooting up a few Chinese junks.



No. 2—Lai Choi San, the famous Chinese woman pirate, admiral and owner of a fleet of twelve pirate junks, rules supreme in her territory along Sin Kiang—West River. She is about forty and when not "on the job" dresses extremely well and is undoubtedly a lady of refinement. It took weeks of negotiation and parleying before she permitted Mr. Aleko E. Lilius to "join" her party aboard her ship on some of her raiding trips.



No. 3—One of Lai Choi San's pirate ships chasing a trading junk which has refused to "pull up and pay up." This picture was taken by Mr. Aleko E. Lilius from the poop deck of Lai Choi San's flagship, during one of the famous pirate woman's raiding trips.



No. 4—Here are three members of Lai Choi San's crew. They look jolly here, but it's because they have just had their rice.



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**EASTMAN****SOUND RECORDING FILM**



# LIGHT FILTERS

## FROM THE

# CINEMATOGRAPHERS

## VIEW POINT



By **EMERY HUSE and NED VAN BUREN**  
A Series—Part I

Dramatic cinematography has as its primary goal the creation of illusion. The unembellished rendering of objects by photography is not the aim of the artistic and dramatic cameraman. His desire is to create a mood picture as well as an object picture and the achievement of his purpose has lead to the use of many devices in his creative art. Among such devices and occupying a very important place are light filters, which are particularly adaptable for use in the creation of photographic effects.

The primary object of this paper is to discuss fully the general subject of light filters and to show how and why they are applied in the production of effects in black and white cinematography. Furthermore, this paper, although dealing technically with light filters in general, will make specific reference to "Wratten light filters," as these filters have been considered standard by most photographers throughout the world.

As far back as 1909 Wratten light filters were recognized as occupying a unique position in technical and scientific work as well as for photographic work. These filters are available in a wide range of color transmissions. The standardization of them for color is very carefully worked out and the standards adopted are rigidly adhered to. These filters are prepared from organic dyes of which there are a great number available. Any given filter may contain one or more of these dyes. They are made by coating gelatin containing a given amount of dye by weight upon specially prepared plate glass. After drying, the filters are stripped from the glass and carefully checked physically and spectro-photometrically for color against established standards. These filters are then prepared for the trade in either their gelatin form or in glass, in which case the gelatin filter is carefully cemented between sheets of optical glass. There are over one hundred Wratten light filters available for all types of work, but for the cinematographer most of his needs can be filled with about ten of them.

Light filters may be defined as transparent media possessing the property of selectively transmitting certain

wave lengths of light. They likewise have the property of absorbing those wave lengths which are not transmitted. The use of a light filter with a photographic emulsion must, therefore, depend upon the ability of the emulsion to record the transmitted colors.

A proper understanding of light filters necessitates some knowledge relative to the general subject of light and color as well as knowledge of the photographic emulsions which are used.

With the aid of a spectroscope, an instrument in which light may be examined after passing through a prism, light can be analyzed into its component parts. If the original source of the light is "white" (containing all visible colors) the various colors composing it will be seen through the spectroscope merging into one another into a continuous band. If the original source of light is colored, there will be breaks or absorptions in the band. Filters can produce this latter result and it is for this reason that white light looks colored when examined through a selectively absorbing filter. From the standpoint of practical cinematography the light emitted by tungsten lamps and by daylight can be considered white light in the general sense of the term, inasmuch as they both show, upon spectroscopic examination, a merging continuous band of colors extending from the visible violet throughout the visible spectrum to the limits of the visible red. Although these two sources may be called white light, they are not identical because they differ in the relative proportions of the various component colors.

It is well known that in sound there are notes of different frequencies, i.e., so many waves per second, falling on the ear. With light there are different frequencies of vibration falling on the eye. Light is considered a wave form of motion in ether. Since the velocity of light, 186,000 miles per second, is the same for waves of different frequencies, it should be clear that waves of high frequency will be of shorter wave length than those of low frequency. Experiment has shown that the wave lengths of blue light are shorter than those of green light and that both are shorter than red light. Figure 1 shows the relative length of the waves corresponding to the various

WAVE LENGTHS

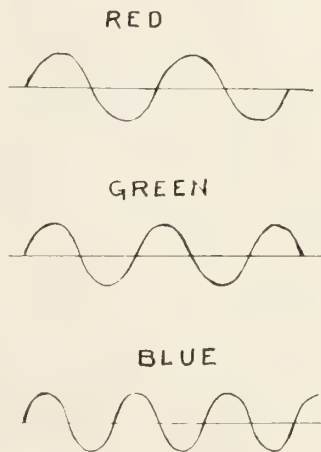


FIG. I

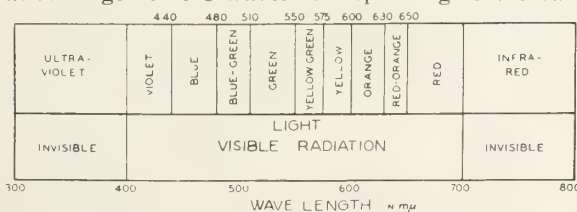


FIG. II

colors, the diagram being drawn to scale. Since there is a definite relationship between wave length and color, a

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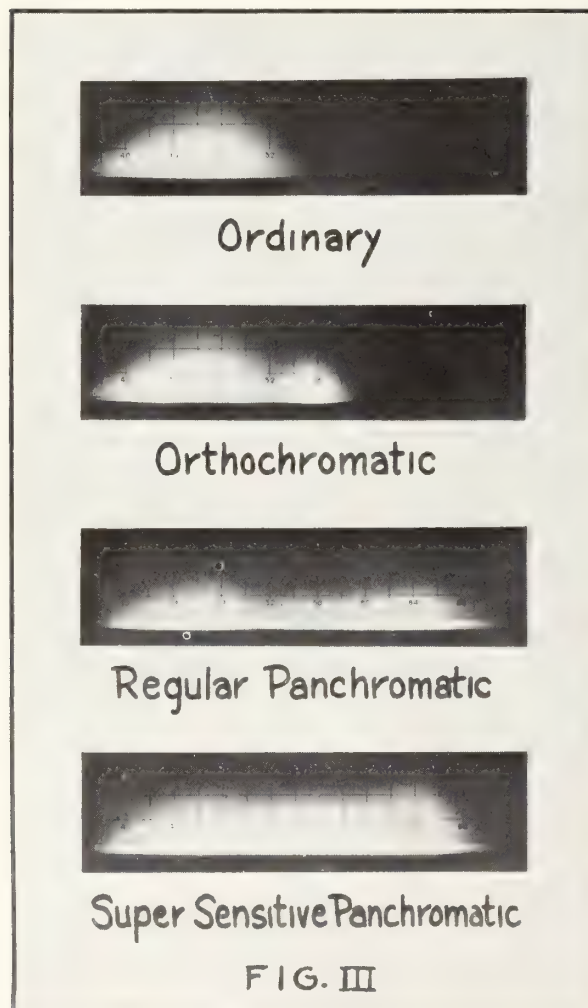
scale may be constructed in which the different wave length numbers correspond in position to the different colors in the spectrum. A scale of this type is shown in Figure 2. The numbers representing wave length are expressed in terms of millimicrons ( $m\mu$ ), one millimicron being equal to 0.000001 millimeter.

Light filters are classified in terms of their transmission and absorptions of light. If the light passing through the filter appears red, it does so because the filter transmits red light. The remaining colors of the spectrum are sufficiently absorbed by the filter to prevent their perception by the eye. Similarly a blue filter transmits blue light, and a green filter, green light. On the other hand, a yellow filter, while transmitting yellow light, likewise transmits quite completely almost the entire spectrum, with the exception of the blue. The degree of saturation of the yellow filter, i.e., its yellowness, indicates quantitatively the amount of blue which that filter absorbs. Yellow light is generally conceived as simply lacking blue light.

Since there are light filters available transmitting various portions of the spectrum, it becomes necessary for the cinematographer to analyze filters in terms of the color of the objects in the scene to be photographed as well as in terms of the color sensitivity of the photogra-

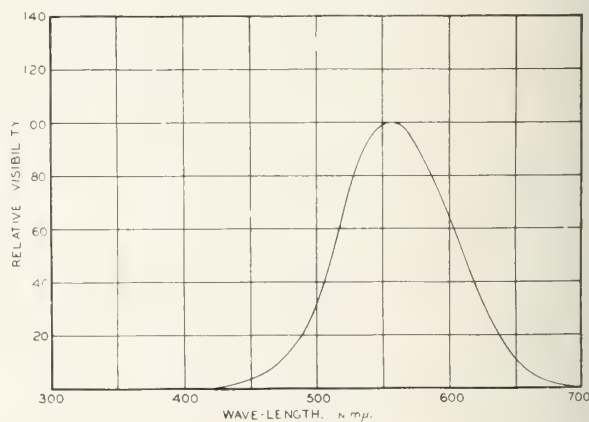
phic emulsion must be fully appreciated. Although present day practice makes use almost exclusively of panchromatic emulsions, it would undoubtedly be of interest to the reader to study the various types of emulsions classified in terms of their overall sensitivity. This should be of interest because the original gelatino-bromide emulsions were non-color sensitive; they were of the type which are referred to today as "ordinary" emulsions. Emulsions of this type were later successively replaced for negative work by sensitized emulsions of the orthochromatic and panchromatic type. Figure 3 shows wedge spectrograms of the three basic types of emulsion: ordinary—blue sensitive; orthochromatic—blue-green sensitive; and panchromatic—blue, green, and red sensitive, of which are shown two different types of sensitizing. The two types of panchromatic emulsions represent what might be termed regular and super-sensitive. These two types differ in their degree and extent of red sensitivity and also in their degree of green sensitivity. The super-sensitive emulsion has a much higher red sensitivity, although it does not extend quite as far into the red region of the spectrum as does the regular panchromatic type. The super-sensitive emulsion also has an appreciably higher green and yellow sensitivity. These emulsions lend themselves to quite different filter interpretation.

Another factor to which there must be given some thought is the relation existing between the sensitivity of the human eye to color and the color sensitivity of the photographic emulsion. When light falls upon the retina the sensation produced has three distinct attributes: brilliance, hue, and saturation. When an object in a given scene is observed it is visible by virtue of the contrast between it and its surrounding background. According to Jones and Crabtree\* this contrast may be due to a difference in contrast of either of the three above mentioned attributes. The visibility of object detail depends upon the existence of a brilliance contrast. The reproduction of detail by the photographic process must be accomplished by reproducing as a brilliance contrast that contrast which in the object may be due to a contrast of hue, saturation, or brilliance. This being the case, the visual function giving the relation between the wave length of the radiation and the brilliance of the resulting sensation is of prime importance. Figure 4 shows the visibility curve



phic emulsion on which he intends making his photographic record.

At the present time panchromatic emulsions are used exclusively in dramatic cinematography. Emulsions of this type are especially sensitized to produce this varied color sensitivity. The use of filters with panchromatic emulsions, therefore, becomes an art in itself and, as has been previously stated, the relationship between the color of the light transmitted by the filters and the color sensi-



of the eye obtained by plotting brilliance sensation, produced by the action of constant energy intensity, against wave length. It is important in photographic reproduction to know the characteristics of this visibility curve as well as the spectral sensitivity of emulsions; the spectral distribution of energy from different light sources; of light reflected from objects in the scene; and of the spectral distribution of the light transmitted by the filters.

\* West Coast Division, Motion Picture Film Department, Eastman Kodak Co.

\* L. A. Jones and J. I. Crabtree, Communication No. 290, Research Laboratories, Eastman Kodak Company.

# POWER LEVEL IN AUDIO AMPLIFICATION

By CHARLES FELSTEAD\*

It is fully as important for the motion picture cameraman to know something about audio amplifiers and other units of sound recording equipment as it is for the sound monitor man to have an understanding of cameras, types of lenses, and camera angles. The manner in which power level is measured and computed in amplifiers such as employed in sound recording is a matter that usually confuses persons who have not delved into the mathematical theory of communication circuits. It is hoped that the following brief paragraphs will help to make clear what is meant when it is said that an amplifier has a gain of this many decibels or an output power of that many decibels.

The electrical gain or loss in communication circuits is measured in terms of the *Bel*, or the more common unit, the *decibel*, which is equal to one-tenth of the Bel. This is purely an arbitrary unit and is calculated on a logarithmic basis that corresponds to the manner in which the human ear functions. In terms of power measurement, the gain or loss in a device or circuit is equal to ten times the common logarithm of the ratio of the watts

at the input of the device to the watts at the output.

This is expressed mathematically as  $NDB = 10 \log_{10} \frac{P_1}{P_2}$ , where  $NDB$  is the gain or loss in decibels and  $P_1$  and  $P_2$  are the input and output powers of the circuit.

Being a logarithmic quantity, the gain or loss in electrical devices that are connected together may be added algebraically if gain is considered as a positive number and loss is given a negative sign, which is the same as considering loss as negative gain. That is: If an amplifier having a gain (amplification) of twenty-five decibels is connected in series with an attenuation network that has a twenty-decibel loss, the over all gain in the circuit will be only five decibels. If another amplifier that has a gain of thirty decibels is then employed in series with this combination, the resulting over all gain will be thirty-five decibels.

Electrical level is defined as the number of watts of power at a point in a circuit with respect to zero level, or reference level, which is customarily considered to be 0.006 watt, or six milliwatts. All levels above zero level are given a positive sign; while all levels below that value are considered to be negative. Audio amplifiers are rated to have a maximum sine wave carrying capacity, or output power, of so many watts, or of so many decibels relative to zero level. This means that the electrical level at the output of the amplifier, as measured with respect to zero level, must not exceed this rated value if overloading of the amplifier is not to occur.

The output power level, which is dependent chiefly on the type of tube or tubes employed in the last stage of amplification, should not be confused with the gain in

\* Sound Engineer, Universal Pictures Corporation.

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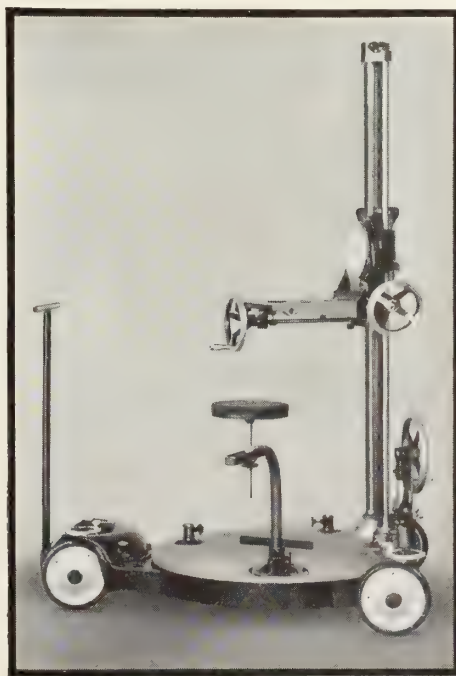
## The New Bell & Howell ROTAMBULATOR

The B & H Rotambulator brings to camera mobility an unbelievable freedom combined with amazing smoothness and precision of operation. The camera can be rotated, raised, lowered, and tilted at will. Very even motion is obtained by the use of friction plates operating in oil in sealed compartments. These "bearings" slip slowly but surely. The entire unit is moveable over the floor with the same precise smoothness of action.

Camera is mounted on platform (shown midway on vertical column) which may be moved in all planes. For panning, the base platform bearing the whole apparatus, including operator's seat, is rotated on the main axle. Jack lift unit off wheels and lock firmly for fixed camera viewpoint.

### BELL & HOWELL Company

1849 Larchmont Ave., Chicago; 11 West 42nd St., New York; 716 North La Brea Ave., Hollywood; 320 Regent St., London (B & H Co., Ltd.) Est. 1907.



The New B & H Rotambulator, successfully in use at M-G-M Studios.

#### Dimensions and Weights

Over-all length.....	62 $\frac{3}{4}$ "
Over-all width.....	46 $\frac{3}{4}$ "
Over-all height.....	90"
Max. height of camera table .....	71 $\frac{3}{4}$ "
Min. height of camera table with panning wheel attached .....	16"
Min. height of camera table with panning wheel removed .....	12 $\frac{3}{4}$ "
Diameter of rotary platform .....	42"
Size of camera table 13 $\frac{3}{4}$ "x13 $\frac{3}{8}$ "	
Max. height of seat.....	39 $\frac{3}{4}$ "
Min. height of seat.....	31 $\frac{3}{4}$ "
Height of standing platform .....	21"
Net weight.....	700 lbs.



# THE PRACTICAL LEICA AT THE WORLD'S FAIR

By ALVIN WYCKOFF

Buildings in gala attire; streets arbores with streamers of gay colored bunting casting sinuous shadows from a bright shining sun through a crystal atmosphere; flags waving and flashing their national glory; the booming of big guns and the shrill blare of trumpets; the mellow beating of drums and the martial music of bands; the clattering hoofs of cavalry and the rumble of artillery wheels; the measured tread of infantry, marines and sailors: The glorious acclamation of thousands of people from everywhere standing in line for the review and, from above, under the blue dome the drone of countless passing planes—pomp and circumstance heralding "A Century of Progress," born at Chicago and taking its place in history.

Injected into this epic are photographers from all over the world; of every nationality; some of them stationed at points of vantage, others running up and down from place to place, each striving to gain a "front page event." Into this human mass came wandering from east and west of this nation three cameramen, without assignment, arriving simultaneously, like metal drawn to a magnet, at the office of William Strafford, Business Manager of Local 666, International Photographers; John Boyle, Ray Fernstrom and the writer—and the only camera among us all, who follow the photographic profession, was a fully equipped Leica and this is the instrument that helps to tell the story of this chance meeting.

It was agreed, with no argument, that we would at-

tend the opening of the Exposition, but first we would have lunch at the Palmer House, along with other dignitaries. It was a grand success. After the luncheon ceremony a Yellow Taxi conveyed us to within half a mile of the 12th Street entrance and then became involved with hundreds of other cabs and occupants endeavoring to arrive at the same entrance at the same time and be first in: Policemen, guards, soldiers, sailors, boy-scouts, milling around in an effort to bring order out of good natured confusion; thousands laughing, shouting and dancing to the humorous inclinations of holiday festival welded into one idea and effort. Deserting our cab, we joined together and, adding ourselves to the crowd, we struggled on to the gates to offer up our little paste-boards that would let us view the show. With others in line we passed through the turn-stile gate and in our childish excitement we got in the way of a military formation of Exposition Guards, (1) marching to the relief of their comrades who had completed their turn at post.

The last one in line stepped out and we formed up along with him to get our picture (2) "took" with the Flags of the Nations in the background. Fernstrom went wandering ahead; seemed as though there was a strolling impulse that gradually drew him on to other attractions, but we caught up with him near the Sears-Roebuck Building (3) clothed in that never melting smile that later influenced the gathering of those wonderful Nordic





ladies to our corner after we had entered the Swedish Building.

See that 620 foot tower directly over John Boyle's shoulder? (4) Well, the top of that tower was our next destination. As we turned we espied up there on the cables (4½) two workmen going home to lunch. The Leica, with the 90 mm. lens picked them out. After purchasing tickets admitting us to the Observation Platform we were politely conducted to the elevator, as usual, installed by Otis and, in company with shrinking women and other brave men, we were literally jerked to the top; the doors opened and we were greeted by what appeared to be soldiers from a mythical kingdom, one of them, whom we judged to be their leader requested everybody please to step out. The "soldiers" lined up around us like a corporals guard conducting their prisoners to the guard house and we all moved together out on to the observation platform. To the southwest and north in a beautiful panorama lay that wonderful aggressive and progressive giant infant city of Chicago; in the opposite direction, Lake Michigan, deep, vast and mysterious; immediately before and below us 620 feet, lay the Exposition spread out in criss-cross fashion, with crowds wandering aimlessly in and out of buildings, much like a colony of ants in and out of their nests.

Fernstrom was not satisfied with being on top of the world at this point and began to search for a ladder that he might go up a few feet higher to get pictures of a better perspective with the Leica; the much desired ladder was located under some building material that had not yet been removed; with permission it was brought forth and this is what the Leica saw. (5) John Boyle, William Strafford and Alvin Wyckoff with the Exposition and Lake Michigan spreading away to the south.

Descending from the tower we boarded one of the Greyhound Trailer Busses, the unique vehicles used for mass transportation from end to end of the Exposition. (6) These busses were built by the General Motors Company and are operated by one of the greatest transportation companies in this country and new to this century, The Greyhound Lines. These busses have a seating capacity of 90 passengers.

Now that the mid part of the afternoon was passed it was necessary to use this new method of travel in order to get a general idea of this "Big Location" and so we travelled toward the south end with the General Motors and Chrysler Buildings as our objective, (7). Every minute we passed a loaded bus going in the opposite direction.

Arriving at the Chrysler and General Motors Buildings we were well repaid for our efforts in entertainment. The entrance of the Chrysler Building (8) was impressive and turning around to the view of the General Motors Building (9) outlined against the late afternoon sky we found it equally attractive. Here was a show well worth the time of anyone interested in automobiles, their construction and the materials of which they are made, and if you happen to be a prospective customer, your opportunity is here to try out any model of either make under such favorable conditions we may select our next with by driving it over the test tracks that have been built and maintained for such a purpose and, of course, under such favorable conditions we selected our next automobile—when conditions get better.

It was a grand day and it was rapidly closing, with our confused minds wondering where to go and what next to see. A week would be needed, two would be better, but we had to be satisfied with this short day.

This Exposition is the ideal paradise for a cameraman, for any photographer, professional or amateur, for here is illustrative material to supply endless entertainment and stories.

The night performance was a study of lighting effects



Chicago—Jackson J. Rose made this interesting picture with a Leica camera, showing Michigan Boulevard looking south from the roof of the Medinah Athletic Club.

Mr. Rose, veteran cinematographer, has had many examples of his work hung in the following photographic salons during the 1932-33 season: Beckingham Photographic Society Annual Exhibition, Beckingham, England; First International Salon of Photographic Art, Milwaukee, Wisconsin; First Detroit International Salon of Industrial Photography, Detroit, Mich.; Canadian National Exhibition, Toronto, Ontario; Twentieth Annual Pittsburgh Salon of Photographic Art, Carnegie Institute, Pittsburgh, Pennsylvania; All American Photographic Salon, Los Angeles, California; Third Annual International Salon of Photography, San Diego, California; II Mezinarodni Fotograficky Salon, Praha, Czechoslovakia; Deutsche und Internationale Photo Ausstellung Des Vdag, Leipzig, Germany; Hackney Photographic Society's 44th Annual Exhibition, Hackney, England; The Barry Camera Club's 24th Annual Exhibition, Barry, England; Birmingham Photographic Society's 42nd Annual Exhibition, Birmingham, England.

that would be the delight of any artist seeking new inspiration for fresh ideas. With the new speed emulsions and the fast lenses of these modern times the artist should carry away with him records of a new age that will afford him much fresh material for many days into the future.

### WOMAN IN THE CHAIR

Phil Goldstone, Majestic producer, at Max Sennett's North Hollywood Studio, announces "Woman in the Chair," a mystery story, in process of casting. Ira (Joe) Morgan will be chief cinematographer; Harry Marsh, assistant; Art Marion, stills.

### OBITUARY

Miss Marion Virginia Witt, daughter of Mr. and Mrs. Edwin M. Witt, passed away at the family home in Hollywood, Sunday, May 21. Miss Witt was only twenty-four years old and already a sculptress and musician of great promise. Her father is a well known and popular member of the International Photographers, Local 659, which extends heartfelt sympathy.



# Cinematographic Composition

By  
EUGENE J. COUR

An Outline of the Application of Dynamic  
Symmetry to Motion Picture Composition

[Mr. Cour is famous as the publisher of Cinema Crafts, Chicago; also Cinema Crafts Year Book and Directory. He is a technical writer on all cinematographic matters and is in every way qualified to handle this somewhat difficult subject just now attracting great attention among the more serious minded masters of the camera.—Editor's Note.]

(Pre-release of an article that will appear with the pictorial section of Cinema Crafts Year Book for 1933)

## PART II.

In an art class a few years back a student had completed his layout for a commercial design from the models that had been set up willy-nilly by the instructor. The instructor, upon inspection of the student's sketch, indicated that the figure should be raised about an inch and moved to the left about two inches to gain a proper proportion to the whole.

The student, frankly puzzled why, asked the instructor for the principle or rule that governed the scheme of proportion.

"Rules shackle the creative instinct," the instructor declared.

"Artistic proportion is a matter of feeling. This feeling of the true artist can only be gained by a close study of and constant association with Greek art."

While the instructor's theory of art denies rule, it indirectly sets up the mental machinery for empirical rules. If a close study of Greek art will give the student an empirical "feeling" for good proportion, it is evident that a close study of the rules of proportion established by the Greeks will not only give "feeling," but a mastery of the laws of proportion.

That the Greek laws of proportion were basically good laws is revealed in the fact that after two thousand

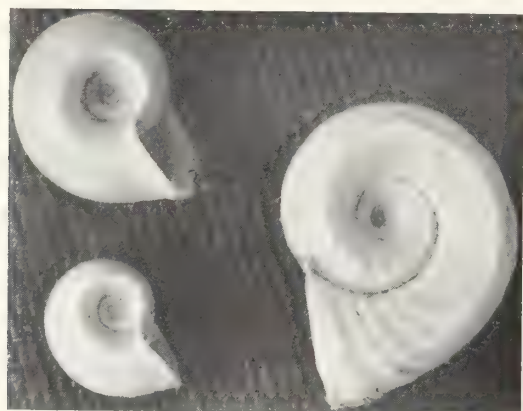


Figure 1

years our art instructors use Greek works of art as the outstanding examples of good composition. These principles of the Greeks are comprehensively treated in the books of Jay Hambidge.

Hambidge, who was a noted artist and illustrator, declared that he was impelled to take up the subject of symmetry because he could not entirely agree with the modern tendency to regard design as purely instinctive. As the trend of the individual and of society seems to be toward an advance from "feeling" to intelligence, from instinct to reason, so the art effort of man must lead to a like goal.

With that goal as an inspiration Hambidge wrestled with the problem of Greek proportion for twenty-five years, which resulted in his discovery of the secret of the Greeks that had been lost to the art world which it has dominated for two thousand years.

For those who are squeamish about rules in art, John Ruskin, the famous English art critic and author, says in his "Elements of Drawing:" "Though no one can invent by rule, there are some simple laws of arrangement which it is well for you to know, because, though they will not enable you to produce a good picture, they will often assist you to set forth what goodness may be in your work in a more telling way than you could have done otherwise."

Rules may then be said to be the guide of workmen and the discipline of genius.

While Hambidge has made available to the world the rules for composition generally through his works on the classic root and whirling square rectangles, it is unfortunate that the motion picture rectangle known as the standard of the Academy of Motion Picture Arts and Sciences does not conform to these classic rectangles—though it might be added it closely approximates the ROOT TWO rectangle which has a proportion of 1:1.4142.

The Ampas projection aperture has a ratio of 1:1.375 which is a ratio that is classed as an irregular rectangle. Right or wrong it is this rectangle that makes or breaks the picture production. In presenting the technique of irregular rectangles it is not intended that the cameraman should discard his better known principles of the classic root rectangles, nor is there any intention of agreeing with the standard of the Academy of Motion Picture "Irregular" Arts and Sciences. Inasmuch as the cameraman must create his pictorial studies within the limits of a miniature rectangle measured in thousandths of an inch it is necessary for him to consider his related areas very carefully, as his camera errors are multiplied a thousand or more times when projected upon the theatre screen. Under the circumstances, if the cameraman must work with irregular rectangles it is but fitting that this article should present theories regarding composition within irregular rectangles.

It has often been said that sea shells, plants and nature generally conform in growth to the classic proportion of the whirling square 1:1.618. In The INTERNATIONAL PHOTOGRAPHER for June 1930, Fred Westerberg states: "The other assumption is that living objects in growing, exhibit a tendency to conform to a basic law of proportion which can be expressed by the ratio 1:1.618.

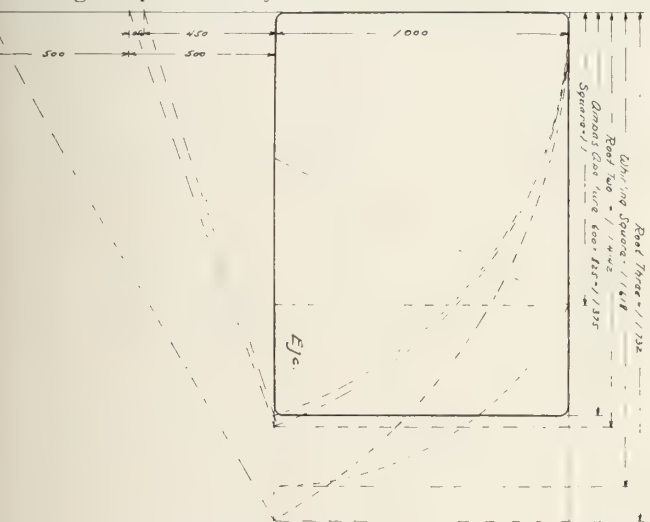
In the examination, by this writer, of more than a score of shells of different families not one was found that even closely approximated the ratio of the whirling square. It is apparent that proportion in nature does not depend upon any one combination or series of combinations of ratios, but upon the principle of continued proportional growth and on similarity of form. But nature does conform to the sum and substance of the principles of dynamic symmetry in that all growth is in continued proportion and divisible into similar shapes.

Three types of the common garden variety of snail shells are shown in Fig. 1. It will be readily perceived that though these shells do not conform to the classic ratio, they do follow the law of continued proportion despite the irregular rectangle theme.

Edward B. Edwards in his book, "Dynamarythmic Design" offers the first recognition of irregular rectangles as being of dynamic proportion. He says: "While the root and the 1:1.618 or classic rectangles are more fascinating in their remarkable coincidences of form, and in the

case of the root rectangles may be evenly divided in terms of their reciprocals, the principles of divisibility into GNOMIC FORMS in a continued ratio apply as well to the “irregular” or “in-between” rectangles, which can be described individually only in terms of ratio of the end to the side.”

Edwards offers a proportional arrangement for laying out the classic root rectangles, with which is presented the Ampas aperture, founded upon the same proportional principles, as well as the method for laying out the whirling square rectangle. This is shown in Fig. 2. It will be noticed that a radius of one and one-half times the end dimension will intersect the base line for the side dimension of a Root Two rectangle. If we add another half to the dimension of the end we will have a radius that will give us a Root Three proportion and so on by adding half of the end dimension each time for each of the root rectangles up to infinity.



### Figure 2

We find in the comparison of the Ampas aperture ratio a proportion slightly less than Root Two. It is struck by a radius of 1.450 times the end dimension and gives us a rectangle ratio of 1:1.375.

Now if we draw a rectangle of .600 x .825 as in Fig. 3 and then construct a right angle with one end and one side, as shown, we will find the mean proportional, all of which are shown by shaded lines, and from these construct the large rectangle, it will be found that the large rectangle is in continued proportion and is offered as proof that the irregular Ampas rectangle conforms to the prin-

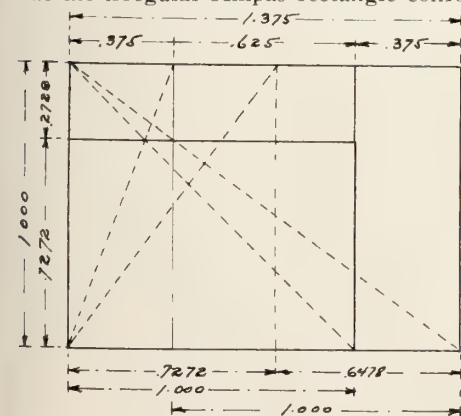


Figure 5

ciples of dynamic symmetry. Despite the difficulties attendant upon working with this irregular proportion it is reluctantly admitted that the dynamic claim is valid.

Edwards again points out more particularly a proof of the continued proportion of irregular rectangles in that the gnomon of a rectangle of any ratio revolves around the pole of the intersection of the two diagonals and decreases

in constant ratio to infinity. He terms these irregular rectangles "Rectangles of the Whirling Gnomons."

In Fig. 4 we have an irregular rectangle of the proportion of the Ampas aperture. With the diagonal of the

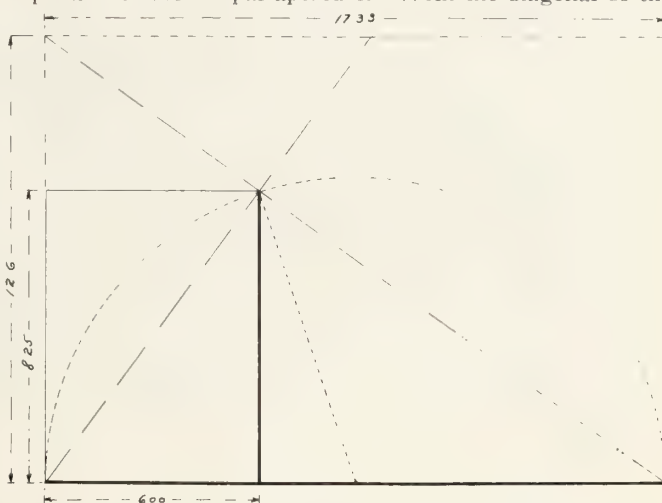


Figure 3

whole intercepted at right angles as shown we construct the reciprocal of the rectangle. The area in excess of the Reciprocal is termed the Gnomon. Starting with this Gnomon in a whirling path each decreasing rectangle following around the pole is in direct proportion.

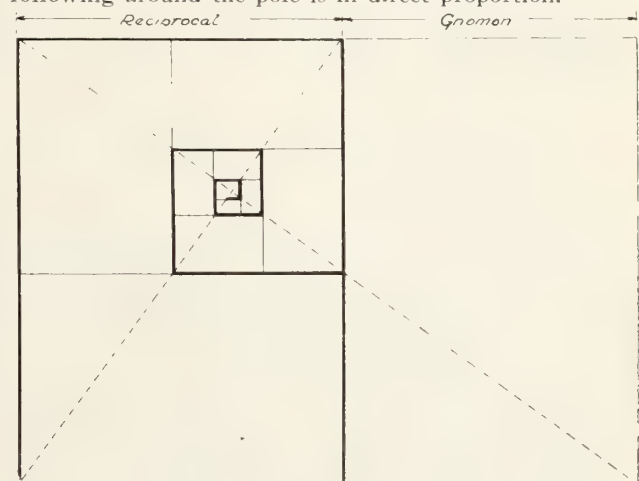


Figure 4

For those who wish to investigate this theory of irregular rectangles Fig. 5 offers some of the ratios inherent in the Ampas aperture.

Michael Jacobs in his book, "The Art of Composition," presents layouts for irregular rectangles without terming them such. In Figs. 6 and 7 are shown two types

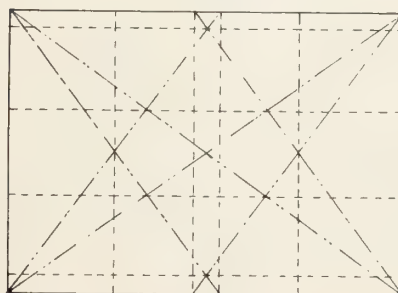


Figure 6

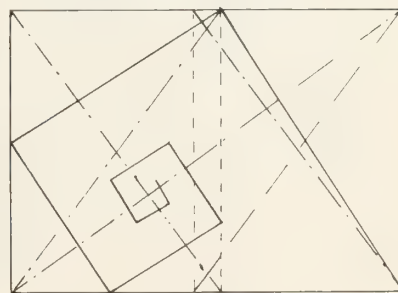


Figure 7

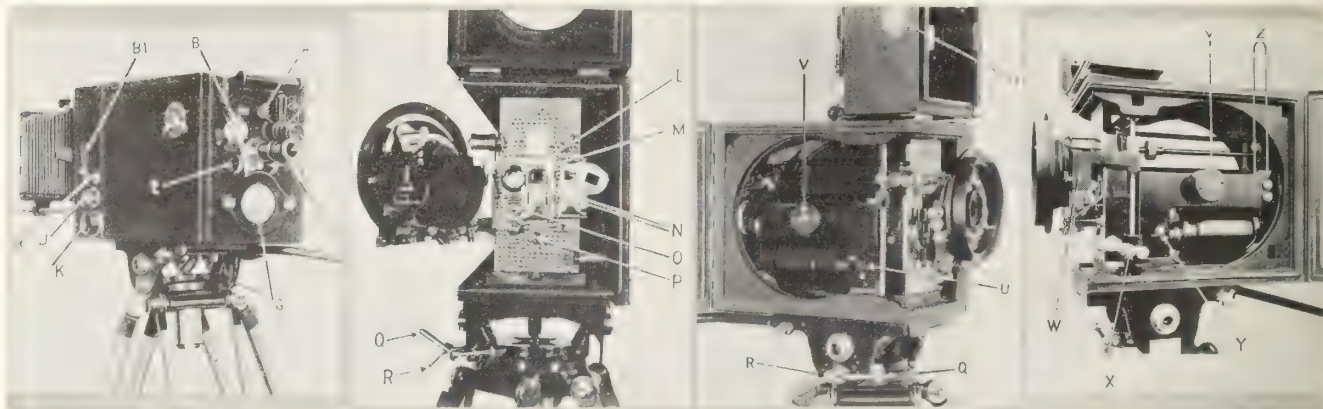
of layouts which he terms “less than root two” and discloses that he regards irregular rectangles as dynamic. Fig. 6 is a modification of the star layout and Fig. 7 of the whirling square layout both in Ampas proportion.

It is possible that the motion picture industry can shuffle along with the "square peg in a round hole" policy. After all, it's the motion pictures' business.



# DEBRIE SUPER-PARVO, The Silent Camera

By ALVIN WYCKOFF



A—Knob for shifting of Ground Glass; B—Focusing Dial; C—Focusing Tube (8x); D—Speed Indicator Dial; E—Footage and Turn Counter; F—Locket and Switch with Electro-Magnetic Cut-out; G—Hand-crank and Opening for removal of Motor; H—Automatic Fade and Lap Dissolve; J—Hand Fade; K—Knob for Locking Case; L—Ground Glass; M—Intermittent Pressure Plate; N—Register Pins;

O—Film Punch; P—Pivot for Gate and Ground Glass; Q—Pan Adjustment; R—Tilt Adjustment; T—Knob for Closing Shutter; U—Oil Level; V—Take-ups; W—Switch for Automatic Fade; X—Automatic Switch for Anti-buckling Device; Y—Gear Shift for Motors of 1500 or 2400 RPM; Z—Knobs for setting Footage and Turn Counters to zero.

"All ready for action! Quiet please! Turn it over!"  
Long pause.

"Well, what about it, why don't you start?"

"We have started, Mr. Director; the camera is running."

"I'm sitting only 18 inches from it and I can't hear it."

"Mr. Mixer, you have the microphone right up to the camera, could you hear it?"

"No, Mr. Director, I couldn't; I don't think it was running."

"Mr. Director, we haven't turned it off yet; so I will open the door of the camera to prove that it IS going."

The door was opened and the camera WAS running—the purr of the mechanism could now be plainly heard.

Astonishment reigned supreme—never before had I heard anything mechanical for the use of exposing motion picture film that was so quiet. I remained for hours to study this new camera. It was a revelation in every way.

## TELEVISION

(Continued from Page 4)

sight, with separate sound and sight receivers in the viewer's home, or these two receivers combined in a single cabinet. For talking motion pictures, a sound head is provided on the projector in much the same way that it is used in the theatre.

12. How will television affect the production department of motion pictures, such as directors, cameramen, etc.—if at all?

Ans. Television will affect each and every department of motion picture industry. If they choose to produce movies for television consumption they will be addressing a different audience than they now approach in the theatre. Their presentation must be more on the order of the present radio program than of the present motion picture. Also, television has limitations which must be catered to at the start. The sets must be simple and certain factors in photography taken into consideration.

If they continue to produce motion pictures, they must produce masterpieces that transcend their present efforts and the presentations that will be offered over television.

13. Will television increase or decrease the importance of the cameraman?

Ans. In making television film, the cameraman must become acquainted with the new technique spoken of above. At present this technique resides mainly in the

A most perfect mechanical contrivance, superbly automatic in every feature, very compact and light; as easily handled as the best cameras of the silent days. Perfectly balanced at any angle of tilt either forward or back.

Due to unique arrangement, electrically, it is impossible to jam and ruin the mechanism. No set aperture to drag the film past; aperture and pilot pins working in perfect synchronous action, eliminating any possibility of even the slightest suggestion of a scratch. Perfect focal contact over the entire screen.

Four hours after its first demonstration the camera was purchased, with cash paid, by one of the prominent commercial studios located in the east. Here, it seems to me, is the answer to that long desired demand for a high class motion picture camera that would do away with the cumbersome blimp and free the cameraman from the dread of missing an important scene due to the handicapping of the instrument he must work with in an effort to constantly improve his art.

experience of television workers and in that of their co-workers. We have made considerable progress along this line in co-operation with the Mack Sennett organization. Some of the requirements are revolutionary but will merely require time to become regular procedures of the art.

14. Will television make more work for the cameraman?

Ans. For making film for television—no.

15. How will television affect the newsreels?

Ans. Television will be one of their natural outlets in the future. Whether this will take them out of the theatre or not is open to question. The field will undoubtedly be split between actual television camera presentation of an event as it occurs, the transmission of special television news reels over the television, and more carefully edited and presented news items to be shown in the theatres.

16. Can the newsreel cameraman of today use the television camera of tomorrow without any great study?

Ans. As regards its operation—yes. *It will be much like doing all of his shooting through a view-finder, because he will have the picture that he is taking constantly before him.* As regards understanding it—no. It will be a device of photo-electric cell and vacuum tubes of the greatest precision; it will be the heart of the television transmitting equipment. The first television

(Turn to Page 42)



# New Developments in Illumination

## Three New Units Described and Demonstrated at the June 15, Meeting of Pacific Coast Section, S.M.P.E.

The Summer meeting of the Pacific Coast Section, S. M. P. E., was held in the auditorium of the Bell & Howell building, 716 North La Brea Ave., at 8:15, June 15, Emery Huse, presiding.

Three units were scheduled on the program:

"A New Development in Arcs for General Set Lighting," by Mr. Elmer C. Richardson, of Mole-Richardson, Inc.

"The Lumenarc," by R. M. Maxwell, Electrical Products Corporation.

"A new Development in Incandescent Lamps for Motion Picture Lighting," by Ralph E. Farnham, Mazda Lamp Division General Electric.

The first unit mentioned is a twin arc for general lighting and, while it somewhat resembles the old arc broadside, a great many basic changes have been made which adapt it to use on sound stages.

The carbons are a new development of the National Carbon Co. Inc., and have been designed especially for use in motion picture photography. It was found that by reducing the size of the carbons from  $\frac{1}{2}$ " diameter to 8 mm. using a special core material and copper-coating

the outside, illumination of much greater intensities could be obtained.

Each pair of carbons has a separate feeding control which keeps them at the proper burning point and eliminates the unsteadiness formerly encountered when the carbons came together in feeding.

The lamp is equipped with chromium plated reflectors and the light output is approximately three times that of the old type side arc.

Unit No. 2 was described by Mr. Maxwell as stated above, but this brief abstract was written at Mr. Maxwell's request by Mr. E. O. Erickson, in charge of Electric Products Laboratory, Hollywood:

Modern electrical advertising made great forward strides after the first pioneering steps were taken by those who saw the advantages of using gaseous discharge tubes as media for conveying an advertising message.

Strictly in line with twentieth century tempo, Neon Signs (to use the generic term by which the public has chosen to designate these devices) quickly rose to the status

(Turn to Page 34)

## "ArtReeves" - Automatic Speed Control Motor

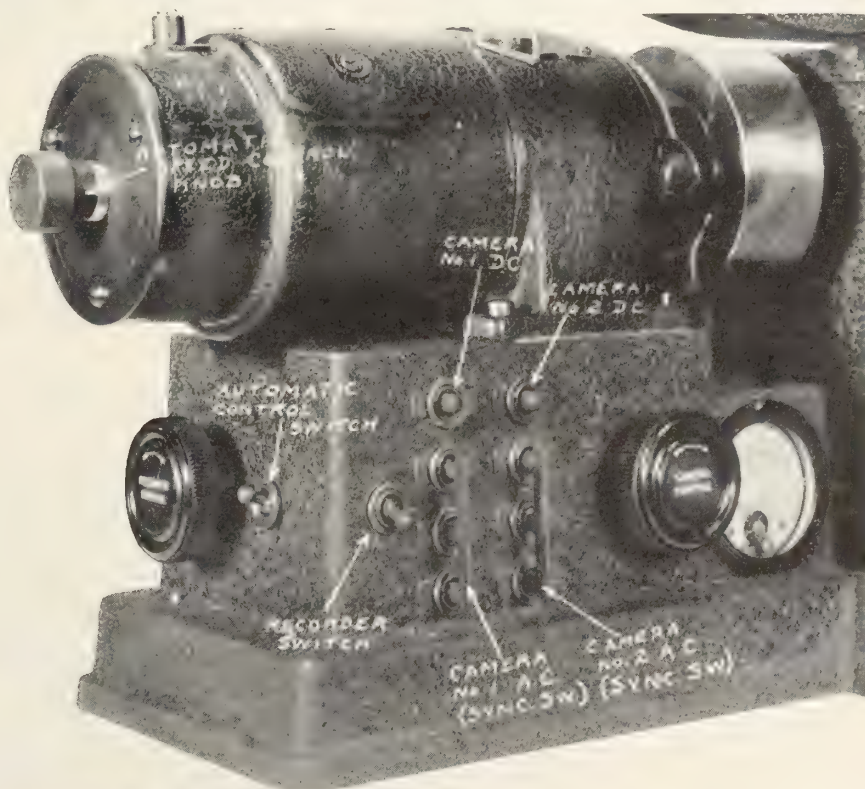


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Representative  
MOVIE CAMERA CO.  
Bombay, India





The ravishing young Undine shown here, poised as though ready to plunge into the water, is Heather Angel whose beauty and dramatic intelligence has so captivated the Fox management that they have definitely set about grooming the charming sprite for stardom. Stardom in pictures, like greatness, is often thrust upon the aspiring actor folk, but in the case of Miss Heather it looks like a case of achievement. She is certainly on the upward rush. Ray Jones posed the young lady for this picture.

## Miniature Camera

### Projection Printing, Retrospect and Prospect

By RALPH H. LINN

For a good many years after someone first thought of applying the magic lantern principle to a photographic negative and obtaining therefrom a larger picture than the size of his camera had hitherto permitted, the "enlargement" was regarded as a very special kind of photograph. It was in a way a "stunt."

And a large portion of the lay public still so regards it. The portrait fraternity continue to sell "enlargements" to their customers—said customers not realizing that the smaller pictures they order are often enlargements, too.

But the professional—the portrait man, the press photographer, and likewise the advanced amateur, long ago ceased to make enlargements. They even ceased to think of them as such. As soon as the making of large prints from small negatives became the rule, and not the exception, projection printing was born. The transition was gradual, but steady, and the reasons for it hardly require elucidation here.

Every decrease in negative size meant a lowering of the cost of operation and lightening of the load which the picture hound was obliged to lug around with him. But leaving these advantages entirely out of consideration, the convenience of the projected print in enabling the pictorial worker to do his trimming beforehand and the commercial man to correct minor errors in the leveling of his camera and composition, to say nothing of "dodging" and other forms of control, is sufficient in itself to account for its universal adoption.

And so, with improvements in practice and emulsions and the introduction of new developers, negative sizes grew even smaller—and several factors formerly regarded as virtually negligible suddenly leaped into major prominence. A minute scratch or speck which would have been invisible in a contact print became something to worry about when "blown up" to say 11 by 14.

Somebody discovered that holding a small, thin negative between thumb and forefinger for even a short time on a warm day produced results little short of awe inspiring in the enlargement which he had intended presenting to the girl friend. Somebody else after years of painstaking research, no doubt, discovered grain—and perhaps tried to patent it! At all events, the small camera enthusiast found out that he must partly pay for his convenience, portability and lowered cost by giving more thought, but not necessarily more trouble, to the handling of his negative material.

And from the brief but decisive battle to overcome the newer obstacles to perfection in picture making he has emerged decidedly the winner. Aided by the work of some of our great research laboratories he has found it entirely practical, and very much more enjoyable, to decrease his negative size well below the "vest pocket" sizes and still gratify his desire for good looking 8 by 10 or 11 by 14 prints, and it is precisely this victory over his initial problems which has paved the way for the rapidly increasing popularity of today's smallest practical cameras—those of the Leica or Contax type, using standard motion picture film and making negatives 24 by 36 mm.

The continuous and exacting demands of the motion picture industry itself, and the brilliant work of the men associated with the camera and laboratory end of it, were mainly responsible for the development of the small camera. Here was "enlarging" with a vengeance! But there are many who even yet have failed to grasp the fact that the problems of these two classes of small negative users are not always identical. It is, of course, obvious that an accumulation of fine marks or dust, for instance, on a strip of film, will manifest itself in a most unpleasant way on the screen, whereas a single mark or speck will pass unnoticed. Not so with the "still." If the miniature cameraist finds a mark on so much as a single frame it is serious, for it may be a shot which permitted of but one exposure and which cannot be duplicated. Right here is where his problem becomes a special one and the necessity for making *his* negatives as perfect as is humanly possible becomes paramount.

Fortunately the way is not difficult; it merely requires altered methods of approach and a consideration of factors heretofore unimportant. It is for the discussion of these methods and factors that this department of **THE INTERNATIONAL PHOTOGRAPHER** has been inaugurated. It is the intention of the editors to

R-K-O called upon Charles Rosher to direct the cinematography on that consisted of Frank Redman and Robert De Grasse, operative cameramen. It being a he-man story, that famous two-fisted actor, Bill Boyd,





make it a clearing-house for information of interest to users of miniature negative material. It will be particularly designed to meet the needs of the professional and the advanced amateur, and in months to come will endeavor to convey the newest "wrinkles," with special emphasis on the treatment of miniature negative material.

To this end your contributions are solicited and likewise your inquiries. If you're having trouble, let's hear from you. If you know something the other fellow doesn't—write it and send it in. This is your department and it can be useful to you by just so much as you are willing to use it.

### SEA GOING SHOWBOAT

Some Hollywood first cameraman and a couple of assistants are going to have a glorious year's vacation with the Romature Expedition, a modern sea going showboat carrying 150 actors, dancers, musicians and other artists, who will circumnavigate the Pacific, entertaining on their way, with important stop-overs in the South Seas to make a native feature motion picture production and twelve shorts, all under direction of David Graham Fischer, Hollywood megaphonist.

The Romature Expedition sails aboard the William H. Harriman, a four-masted schooner of 1450 tons. It will carry a complete theatrical company, fully rehearsed in twelve late Broadway successes such as "Up Pops the Devil," "Private Lives," etc., for showing in Honolulu and the Orient. It will also carry a floor show, orchestra, puppet theatre and other entertainment features for showing in foreign ports.

This modern showboat, with its variegated crew of talented Hollywoodians, will stop at Honolulu, Shanghai and Hong Kong, China; the Philippine Islands, Singapore, Borneo, Sumatra, Sydney and Melbourne, Australia, Java, Bali, New Caledonia, Fiji, Samoa and the Society and Marquesas Islands before a final return, in one year, to Los Angeles.

Shows will be given only in the important cities like Honolulu, Shanghai and Melbourne. When the troupe reaches the South Sea Islands, it will become a regular motion picture producing company and will make a native feature as well as many dramatic shorts on the fire rituals, ceremonial dances and mythology of the islands. A complete film laboratory and sound equipment will be taken along on this expedition in which David Graham Fischer,

The beauty inspector of Fox Films, like the late lamented Florenz Ziegfeld, knew beauty when he saw it and the young woman in the picture herewith is proof plenty that he is an excellent picker. Beautiful, statuesque, graceful and poised is Mimi Jordan and if beauty helps them to climb the heights, Mimi is already near the timber line. This is another of the pictures shot by Ray Jones, chief of the still department of Fox Films.



director; Dr. Harry F. Walker, noted scientist and world traveler and others prominent in Los Angeles are interested.

## Producers' Showroom

Is there anything new under the sun? Consider the PRODUCERS' SHOWROOM.

Its purpose is to apply the new deal of 1933 to the production of stage, screen and radio material. Here the producer of modern entertainment will be able to shop for the varied elements of his broad field. So the department store idea is applied to the amusement business.

The promoters feel that they have hit upon a unique service for helping producers to size up plays, players, music, etc., and before investing their money in them and running the risk of losses such as have often been suffered in the past. If show-business is to prosper once more it must be more economically fostered in the future, like everything else today.

For the first time in the history of the American stage a try-out theatre is to be operated. THE PRODUCERS' SHOWROOM is equipped to put on unproduced plays for preview purposes. An interesting list of playscripts has already been assembled and a schedule of productions arranged. The hope is to discover new plays and players for "the trade."

This is strictly a professional project, all departments being supervised by people of long experience in stage, screen and radio activities. Their hope is that it will fill a proverbially long-felt want in the amusement world.

The Producers' Showroom plant is located at 6480 Sunset Boulevard where the administration personnel have their offices, the Advisory Board being composed of Gus Inglis, Bayone Whipple Huston and Walter Whipple, all experts in the amusement business.

Mr. H. O. Stechan, one of the creators and builders of the Pasadena Community Players and Playhouse, will have charge of the Spoken-Word Writers' Service Department.

The new organization has a completely equipped theatre at 6480 Sunset and is already a going concern worthy of unlimited success.

of the oil fields, "Flaming Gold." Mr. Rosher's production cabinet Geo. Diskant, assistants, with Fred Hendrickson operating the still and Pat O'Brien as featured leads.





# TRI-CHROMATIC Camera

JAMES DOOLITTLE Builds a New Kind of  
Camera Out of a Junk Heap and  
Woolworth Store Hardware

By HIMSELF

I concede no power to the old saw that there's nothing new under the sun by repeating the truth here, but in this atmosphere of constant change, where the innovation of today is the accepted practice of tomorrow and where obsolescence goes almost hand in hand with progress, it may appear that I am dallying with fact and treating the truth but lightly.

As the motion picture, in its elements, awaited but the discovery of flexible film for its commercial practicability, and developments in refined essence made feasible the internal combustion engine, the perfection of panchromatic emulsions has lately made workable certain processes in three-color photography well known in detailed theory to the photographic "ancients."

So, while it may occasion some surprise at first glance it is nevertheless a fact that color photography is as old as "them thar hills" and even if it contains less gold there is not a little profit in prospecting a well-worked stope.

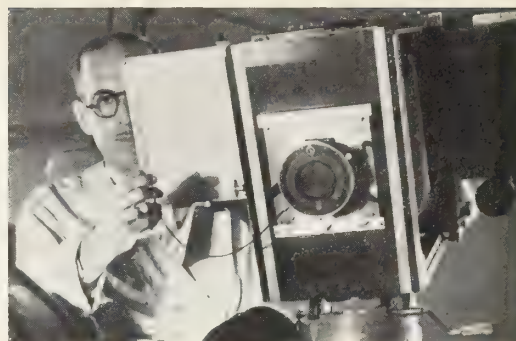
I'm inclined to take issue with the somewhat be-whiskered bromide that "necessity is the mother of invention" and substitute in its stead, "invention is the child of improvisation." There was no howling need for the application of a force known as electricity which prompted Benjamin Franklin to court violent death by flying his kite in a thunder storm.

No urgent necessity induced Alexander Graham Bell to invent the disseminator of wrong numbers, nor was Samuel Morse under the strain of popular clamor when he gave up portrait painting to give the world the telegraph. So on through the years we can observe that things merely developed from curiosity of certain men who "had a hunch" or who were merely spoiling for something to do.

Few, if any of them, had even the remotest idea that their discoveries or inventions would revolutionize anything, as witness the fact that only an inconsiderable number were ever materially benefited by the commercial exploitation of their mental offspring.

All of which is prefatory to saying that we have lately picked up the rusty tools of early investigators and, without adding materially to their contributions, have cashed in on their investment in brains.

Since this is, by reason of several limitations, not a scientific paper I need not go into the matter of describing the several types of cameras used in making separation negatives for tri-chromatic photography nor is there any good reason to explain why I chose the repeating-back type for my own work beyond saying that as no really efficient apparatus is obtainable on the market it was necessary to construct the gimmick myself. I borrowed freely from well known patterns and was



guided by the necessity of utilizing readily available materials and the limitations of my own mechanical facilities.

Commercially, in the interests of good quality, it seemed important that I use as large a negative as possible and this limit is 5 by 7 inches. As three identical negatives are required even this size makes for a somewhat cumbersome apparatus, but if it is not exactly a piece of field equipment its dimensions do not interfere seriously with its practicability.

With the filters integral with the sliding carriage three exposures are made upon a single film 7 by 17 inches. Development of the separate exposures is consequently simultaneous, shrinkage of the support uniform throughout and registration critical. Naturally subjects in which there is inclined to be movement between exposures cannot be attempted with this camera although portraits of persons old enough to grasp the meaning of "still!" are quite successfully made and landscapes under conditions of comparative calm have been made without difficulty. To be completely equipped a "one-shot" camera should form an accessory, but such an instrument has its limitations also. There is yet no universal camera for color work—if, in fact, there be an all-around tool for any purpose.

In detail, the equipment is a substantially constructed camera—also a product of the back-yard shop—which embodies every feature of a good still camera and a few which have up to now been overlooked by the manufacturers. The attachment which carries the film for color work is a sliding carriage accommodating three color filters and the holder for 7 by 17 films. This carriage traverses upon ball bearings, salvaged from an Underwood typewriter (adv.), and is actuated by a manually operated escapement. The mainspring and draw-band from the same machine serves to pull the carriage across the focal plane, the tension being regulated to minimize the interval of traverse. Jar due to sudden stoppage at each position is reduced by a dash-pot which operates somewhat on the principle of a pneumatic door-stop.

The ensemble is constructed of dural and brass, light within the limits of necessary rigidity, yet no effort was made to cut down the weight at the expense of serviceability. Filters were made right here in town by Harrison & Harrison by whom careful tests were made to insure the proper "cut-out" in each stage.

An old style tripod, made in the days when inherent jittering of cameras of the period necessitated sturdy construction, has been adapted to take the standard screw and while here again the weight is considerable, it may be regarded as a mobile unit which will "sit still" during operations. Like the Great American Novel, which still awaits the birth of a genius, the ideal tripod for still cameras has not yet been conceived. I shall have to do something about it!

**The INTERNATIONAL PHOTOGRAPHER**

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magazine for 12 months

# JUNIOR MOTION PICTURE CAMERA NOTES

By **GEORGE J. LANCASTER**

## B & H MONTHLY MEETING

The monthly 16 M.M. lecture, under the auspices of the Bell & Howell Camera Company, was held June 16, at eight P. M. in their auditorium, 716 North La Brea Avenue, Hollywood.

Mr. J. A. Dubray, Western District Manager, spoke on "Film Editing." One of the points pertaining to editing emphasized by Mr. Dubray was "Planning the Story in Advance," that is to say to have in mind some continuity for the story, the sequence of transition of scenes and to establish the location.

Continuity of light was thoroughly explained by Mr. Dubray, the uniformity of exposure throughout the film, eliminating the differential of light in the scenes in sequence, from being either too light or too dark.

A slow motion film of diving and swimming, photographed with a reconstructed 16 M.M. Bell & Howell camera, exposing 128 frames per second, was projected and proved professionally successful in respect of steadiness. This was remarkable in view of the fact that it had been deemed by some of the camera technicians impossible for a 16 M.M. camera to operate at an ultra-rapid speed. Incidentally this ultra-rapid camera is the only Bell & Howell 16 M.M. in existence capable of photographing 128 frames.

The closing of the evening's entertainment was a motion picture of unusually excellent photography of the

Wallace Beery, Metro-Goldwyn-Mayer star, in the film laboratory of his Beverly Hills home where he develops negative and makes his own prints from reels he shoots himself. He has a collection of five different kinds of cameras, including a standard motion picture camera, 16 millimeter, Graflex, 8x10 still camera and several snapshot cameras.



eruption of a volcano in the Hawaiian Islands, and the human interest life in and around Honolulu, by Lieut. Stanford Grey Chapman, U. S. N.

## QUESTIONS AND ANSWERS

**Question:** What kind of film should I use that would be suitable to photograph night scenes on the street, what lens for exposure should I use? My camera is a 5 by 7 Graflex.

**Answer:** For fast film I would suggest Wratten Hypersensitive Panchromatic—1/150 second and an F.1.8 lens will produce good results.

**Question:** What are wipe-offs, how are they made and applied to the motion picture film?

**Answer:** It is impossible to go into technical details here. Wipe-offs are made in the optical printer, the

(Turn to Page 40)

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The World Famous **STEWART-WARNER**  
four speed 16 mm.  
**MOVIE CAMERA**  
Latest Model  
**at ½ Price**

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**\$24<sup>75</sup>**

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Has many features found only in cameras of much higher price, INCLUDING 4 SPEEDS—ONE OF WHICH IS S-L-O-W MOTION for analyzing Golf Swings, Sport Events and Fast Action. Sturdy, light in weight, built for years of service. Simple to operate. Fitted with F:3.5 lens in fixed mount (no focusing necessary). Uses 50 or 100 ft. roll of standard 16 mm. film.

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*"At the Sign of the Camera"*





WHAT'S WHAT!

Published Monthly by J. E. Brulatour, Inc., Distributors

# "BULLETIN" FORECASTS FACTS

Production Activities Greatest in Two Years

"They laughed when I said I could play the piano!" and when the past issue of The Brulatour Bulletin carried as its feature news-story the details of the big boom just around the corner, some of our readers were so unkind as to accuse us of "whistling through the graveyard."

During the past week the metropolitan dailies have carried feature stories on almost all of the major studios. Bigger programs—more pictures to be made in the next season are announced in detail by M-G-M, Paramount, Universal, Twentieth Century, Monogram, Warner Brothers, Columbia. Millions of dollars will be distributed in pay rolls—with important quotas landing in the laps of the cameramen who play such a vitally important part in this industry.

These newspaper reports are not press yarns.

Look! When the June issue of The Bulletin carried the feature news-head, "Full Steam Ahead For Production," Hollywood (meaning the west coast) was groaning along with a too-light load of exactly twenty-four units (including features, independents, shorts and novelties) at all studios combined. As the July issue goes to press our production sheet shows forty-six units in actual shooting and that figure, boys and girls, is established with Twentieth Century not yet started and with M-G-M just rolling up its sleeves and unbuttoning its vest preparing to launch a record schedule for that mighty plant.

Warner Brothers came in under the tape exactly on schedule. June first, studio dark—July first, five units in actual production with two more to start the minute the smoke from fire-crackers and skyrockets floats up to merge with our lovely low fog.

Twentieth Century is scheduled to start the cameras on morning of July tenth, and knowing Darryl Zanuck and his capacity for doing things on schedule, the doubters of that date can pick up a little bet right here if they think that's too early.

Speaking of Twentieth Century, Jimmy Van Trees drew the first term ticket for cameramen with the newly formed outfit. Ink on Jim's document was scarcely dry when Bert Glennon was called in and handed the "Century" pen for his signature. Glennon will boss the cameras on number one unit ("Bowery", Raoul Walsh, directing) and Van Trees takes on number two the minute he completes his opening opus at the Burbank plant where he has been one of the top boys for the Warners during the past four years.

Details of other current assignments are found under studio headings elsewhere on these pages.

Object of The Bulletin is to print the news (of primary interest to cameramen). Give a look at the number of names (cameramen) on these two pages and realize that "names make news" and that production is—Full Steam Ahead.

"Scuse us a minute while we shoot a wire to Rochester for a couple more carloads of that supreme Eastman Super-sensitive Panchromatic Negative—and just a second while we sign the check for that third new delivery truck—and watch out for the August issue of The Bulletin because there'll be still more names added (cameramen)—"We'll be seein' you!"

That's Brulatour Service.

## MOVIETONE CITY

HAL MOHR has finished production with Dieterle on "The Devil in Love" and is standing by for any necessary added scenes or retakes.

ARTIE MILLER finished production with McFadden and started right in on "The Last Trail" with Timing. Miller has Joe La Shalle and S. Wagner at the cameras and Bill Abbott and Harry Webb as assistants. Last month the lino-type man had us say Artie lost a rib. He didn't lose it, he only bent it.

GEORGE SCHNEIDERMAN has begun work on a new picture with Jack Ford, "Life's Worth Living." George is still receiving compliments on "Pilgrimage," his last picture with Ford. Curt Fetter, a doughty fisherman, is handling the camera and J. Gordon and Lou Kunkel, assistants.

LEE GARMES is in production with Blystone on "Shanghai Madness." (Shanghai pictures seem to follow Lee around.) Garmes did a swell job on Lilian Harvey's first picture, "My Lips Betray." Lee is seconded in his present efforts by S. Cortez and Ray Schmitz. The assistants, Slim Cruze and H. C. Smith.

JOHNNY SEITZ has returned from Monterey and is photographing Janet Gaynor in "Paddy the Next Best Thing." The picture is directed by Harry Lachman. It's a small world. Seitz and Lachman were associated in the Rex Ingram Studio in France back in 1924. Bill Skall, who has been with Hal Mohr on most of his pictures for Fox, is seconding Seitz. L. Molino and S. McDonald are the assistants.

ERNIE PALMER has finished "Berkeley Square." Those who have viewed the picture praise the photography highly. It was a difficult assignment and in the opinion of this reporter Palmer handled the job in an outstanding manner.

BOB PLANCK is vacationing at the moment after turning out five or six pictures in a row with no stops in between. LOU O'CONNELL is also on a vacation waiting for a new assignment.

## TO WORLD'S FAIR

FARCIOT EDOUARD, the transparency maestro at Paramount, has dispatched Rex Wimpy and Loyal Griggs to Chicago to make background shots of the Chicago Wheat Pit and also selected shots of the World's Fair buildings and exhibits. Scenes are being made for "The Golden Harvest" and "Swift Arrow," forthcoming Paramount productions.

## SWAIN GOES NATIVE

JOHNNY SWAIN, the RKO laboratory technician, brought his family on from New York. The second day at school here the Swain son and heir entered a track meet. He won the 440, the broad jump and the hop, skip and jump, and what a great introduction that was for the little boy from New York.

## EXTRA!

### UNIVERSAL

MERRITT GERSTAD finally got his fill of fishing, in the High Sierras around June Lake, and came to town, incidentally to Universal, where he is photographing the current John M. Stahl picture, "Only Yesterday." "Long Swat" Al Jones is operating the camera; Paul Hill and Ross Hoffman are the assistants.

TONY GAUDIO answered a call from Director DuPont to photograph his picture, "Lilies of Broadway," which Tony is doing before starting his season's work with Warner Bros. Old Reliable Dick Fryer is handling the camera and Bill Dodds is assisting.

ARTHUR EDSON is back with his old friend, James Whale, making a very difficult assignment, "The Invisible Man." King Gray is the second man and Jack Eagan is the assistant.

JOHNNY HICKSON is busy with another serial and this one is titled, "Gordon of Ghost City," being directed by Ray Taylor. At the Akeley we find the ol' Akeley expert, Bill Sicker. Howard Oswald is the second cameraman. The assistants are Buddy Weiler, Carl Meister, Charles Crane and Bunny Trafton.

LEN POWERS is on another Warren Doane comedy. Gosh that must be about the twentieth one. As usual James Horne is the director and the assistant cameraman is Walter Williams.

GEORGE ROBINSON has finished "Salt Water" and is out every day trying to break 90.

JACK ROSE finished "In the Money" in record time, and is standing by ready to start another one.

CHARLES STUMAR also finished his last picture, "Secret of the Blue Room," under the schedule, and spends his time either flying his airplane or hooking the elusive fishes from their native haunts.

JERRY ASH is at the studio almost every day shooting tests and what not 'bout time he starts a feature here.

JOHN FULTON, in charge of the trick, miniature and projection background departments, is busy behind closed doors working out the very intricate problems assigned to him on "The Invisible Man." From the little we have learned of the going on, something sensational is being developed.

### GEORGE SEID TO LONDON

George Seid, superintendent of the Horsley (Columbia) Laboratories was a passenger on the Chief, leaving Hollywood Saturday night, the twenty-fourth, for New York, whence he will sail to Liverpool and proceed to London, where he will join his chief, Harry Cohn, now completing production plans in Europe. Mr. Seid will probably remain away from his plant about a month, and in his absence responsibility of operation will be in the hands of Claude Baldrige and Frank Cootz.

### PERRY STILL UP

HARRY PERRY is flying in and out of the clouds these days shooting the air scenes for the Richard Dix picture, "Ace of Aces." His regular assistant, Rod Tolmie, is with him as usual.

### SNYDER WITH RACE NITE

EDDIE SNYDER is shooting a very novel series of pictures for General Films, Inc., called "Race Nite," which Ray Hinds is directing. Joe Doran is the assistant cameraman.

## GARMES

Here's the big piece of photographic work has been man in the industry, has Fox Films. Term of Lee year, with options app (Note to Fox produce immortal W arfield). "take him, we'll take him—"

### METRO-GOLDWYN MAYER

JOHN ARNOLD, head of the camera department, may be found at his desk about twenty-five hours a day arranging his schedules for the greatly enlarged production program, which threatens to set new record for M-G-M during next season. Many of the old cameramen are retained. Some production and others standing very early assignments. Additional cameramen will be offered as the season advances.

This studio slowed down during the past month, but is up as we go to press.

OLLIE MARSH has started with Bob Leonard on "Lady." Marsh is seconded by Fitzgerald and Kyme Meade. He printed the foregoing credit times that we thought we'd the length of time these boys had with Marsh. Eddie counts years with Ollie, and Kyme are just youngsters with Ollie; however, Ted Wurtenberg, Ollie has worked with him consistently 12 years. Maybe it will turn steady job. (1910 gag) but :

CLYDE (MILEAGE) DEVER is Sequoia National Park making inary shots for "Malibu," a M-G-M special to be directed by Chet Franklin. Story has to do with the beach, but concerns a lion and a mountain lion and a three of whom become great pals to the surprise of everyone, the deer.

RAY REXNAHAN was out with his Technicolor equipment a short in color for Ed Sedgwick. GEO. FOLSEY has been in New York for some weeks, but will in the studio June 10 in a new assignment.

RAY JUNE has been doing work with Griffith on "Anot guage." M-G-M must like him they take up all the free time away from United Artists. Quite a camera crew on this. Lawson and Dick Wade, second man, Wilbur Bradley and Charles raria, assistants.

HAL ROSSON finished "H Man" with Sam Wood. After vacation on the bounding he leaped right into production of "Back the Clock," being directed by Les White, as usual, his camera, and Harry Parkins his slate and the follow focus-

## POCKET

Theodore Sparkuhl, a newco overseas, has completed his production for Paramount. "Club" starring George Raft was by Al Hall. According to our Sparkuhl's work on the production is outstanding. Immediate completion of "Midnight Club" uhl was assigned to "Too Much money." Eddie Sutherland's new for Paramount.

Sparkuhl for many years was the premier cameraman of the England and France. He is carrying on the good work her "Informers," "Harmony Hea," "Suspense" were three of the known pictures he made in British International.



# BULLETIN

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WHO'S WHO!

## GRAVY

Lee Garmes, whose photography to every camera-directorial contract for of the casts is for one speaking of options—almost *verbatim* the want him—if you don't lose him! (E. O. B.)

## FLASH!

## COLUMBIA

KLING has also finished his Number 17," which was Lambert Hillyer. F. M. the camera as usual, a very capable manner. were Fred Dawson and d. Now, Mr. Kling, you really demonstrate to us are with those new Bobby on a golf course.

LER came in from Santa finish up "The Wrecker," Zell directed. Vic Scheurich and cameraman. Bob Tobey by were the assistants.

ing date on the Frank Bor has been set back for a o JOE AUGUST hopped blinder bus and is now on olorado to see the In-Laws.

AKER has finished the a picture, "Madame La believe it or not, he spends even pictures going to mo-theatres afternoons and e is a very studious chap ee just what all the other e doing. Walker's crew e was Andre Barlatier, sec-Walz and George Kelley.

ETZLAFF has just fin-Moments," which was co-Dave Burton and Roy Neal. and man was Henry Freu-assistants were Jack An-l Keller. The star of the ol Lombard.

## PLETING MUSICAL

ENTINE, Bryan Foy's am, is working on "The a film musical being directed erg. Valentine has been ell with Foy, having ph-e features made here dur-18 months. Joe has quite his one. Al Wetzel and co are the seconds, and eley, H. Cronjager and o are the assistants.

## STUDIOS OPEN

Studios have opened again. rk for three months. The own of their career. Art his cranked a camera here e has lost count of the ack as the gates opened e old camera. And in-load the magazines with back.

## VIEWS

he photographed "The uite," which was directed rey, who is well known e "L'Amour Americain," il Fejos, and many others reach our shores.

ent days, Sparkuhl pho- Ernst Lubitsch pictures ade in Germany before rt Lubitsch to America. ture background is broad eful: productions in three n four countries have made

icient second cameraman, nd Francis Burgess, the id Sparkuhl on his initial ar, out.

## RKO

JACK MACKENZIE is shooting a multitude of stars and prominent players in "The Doctor," among them Lionel Barrymore, Dorothy Jordan, Joel McCrae, Frances Dee and May Robson. The director is John Robertson, and associated with Jack on the camera crew is Russ Metty operating the camera, and Willie Barth, assistant.

DAVE ABEL, who has been at Paramount for many years, had a few weeks between pictures and improved his time by coming over to RKO to photograph Ginger Rogers and Norman Foster in "Rafters Romance," which Wm. Seiter directs. That very excellent second cameraman, Joe Biroc, operates the camera, and Charley Bohny efficiently assists him.

HENRY GERRARD just finished "In the Fog," which Ernest Schoedsack directed. This was a particularly difficult and interesting assignment, but Henry delivered his usual above-par quality. Bob de Grasse, the second cameraman, was very much at home on this picture, having spent a lot of time in dear old London. George Diskant was kept busy polishing the fog filters and the many other things the assistant cameraman is called on to do. Gerrard, as we go to press, is busy shooting tests of Katherine Hepburn, Joan Bennett, Frances Dee and others for the forthcoming George Cukor picture, "Little Women."

ROY HUNT and his assistant, Dick Davol, flew to New York and then boarded a boat for Rio De Janeiro, where they will spend some time shooting actual scenes and background shots for a forthcoming RKO feature, "Rolling Down to Rio."

AL GILKS drew a very nice assignment. He has been at Annapolis for several weeks shooting actual scenes for "Glory Command," with the important members of the cast there on the grounds, and also interior scenes. Christy Cabanne directed, and Harry Wild was the second man. Ye gods! This fellow Wild has been a busy boy this past month. The assistant cameraman was Charles ("Traveller") Burke.

CHARLES (Commodore) ROSHER finished "Flaming Gold," the oilfield story with Bill Boyd, which Ralph Ince directed, and broke all records to reach his boat. He was last seen in and around the Catalina Isthmus enjoying life to the utmost, but we must not forget to mention that while making the picture Frank Redman operated the camera, and Jack Cooney did the assisting.

LUCIEN ANDRIOT has finished "The Death Watch," and he modestly accepted many nice compliments for the general photography and also the fine unusual effects shots. Associated with Lucien was Joe Biroc as second, and Charley Bohny, his favorite assistant.

And EDDIE LINDEN and J. O. TAYLOR continue with their pet, "King Kong, Jr."

## FANCHON ROYER COMPLETES

ERNIE MILLER photographed the Fanchon Royer picture, "Neighbors' Wives," which was just completed at the Fanchon Royer Studio in Glendale. Breezy Eason directed. Ernie's assistant was John MacBurnie.

# WARNER'S WITH FIVE UNITS

George Barnes Joins Camera Staff

## PARAMOUNT

VIC MILNER (COMMODORE to you) has finished his work on "One Sunday Afternoon," with Steve Roberts and has been assigned to the new Lubitsch opus. Vic is taking advantage of a few days of leisure granted him by the studio to polish up the spinaker or something. Vic loves to take people boating. Call him up sometime. P. S. Take your own gasoline.

After much searching and with the help of a score of caddies, CHARLES LANG was found at the Bel-Air Golf Club, hiding in a barranca, from which he was immediately removed and put to work on "A Way to Love," directed by Norman Taurog. Bob Pittack and Cliff Shipper continue to aid Mr. Lang.

LEO TOVER has been leaping about making retakes and added scenes for good old Paramount while he waits for Mae West to start "I'm No Angel." Leo has definitely informed us that his forthcoming production is going to be the best darn picture photographically anybody ever saw if effort on his part can make it so. After seeing the good work in "College Humor" we feel Leo will come close to making good his threat.

## WYCKOFF WITH MASCOT

ALVIN WYCKOFF has been getting up pretty early every morning and hustling all day long on the Nat Levine Mascot serial, "Fighting With Kit Carson." "Shooting 82 scenes one day and nearly that many every day demonstrates how fast we were moving," relates Wyckoff. "Of course speed without quality would not mean anything, but we have seen some of the rushes projected and can vouch for the quality." Associated with Alvin were Billy Nobles handling the camera, and the assistants were Joe Lykens and Monte Steadman; Armand Shaefer and Colbert Clark, directors.

## MONOGRAM PRODUCTIONS

Trem Carr and his staff of producers and directors have moved into the Western Service Studios and are well under way on their 1933-34 program. One of their first moves was to reach out and hire a handful of first class cameramen.

SID HICKOX of Warner Bros. fame, is on his second picture, having finished "The Avenger," directed by Ned Marin for Trem Carr Productions.

GIL WARRENTON finished at Paramount and started immediately with Phil Rosen on "The Devil's Mate," a Vershesier-Monogram production.

CHARLEY SCHOENBAUM signed up with Wm. Lackey and snapped into work on "Skyway," directed by Lou Collins.

## LLOYD KNECHTEL SAILS

LLOYD KNECHTEL is en route to New York where he boards the S. S. "Britannic" for London, where he will remain for some time doing trick, miniature and process background shots. His headquarters will be at George Humphries' Laboratory.

GEORGE BARNES, who has photographed during recent years some of the greatest of Samuel Goldwyn's productions, and was also responsible for the fine photography in several features for M-G-M, Fox and Warner Bros., has been captured by Bill Koenig, production boss of the Warner Bros.-First National Studios, and has stepped into his first assignment in charge of the cameras on the story unit of "Footlight Parade."

Picture is Warner Bros. bid for continued and greater favor of the exhibitors as follow-up on "42nd Street" and "Gold Diggers of 1933."

Story unit is being directed by Lloyd Bacon, and associated with Mr. Barnes at the cameras are Warren Lynch and Jack Kauffman.

Present plans contemplate permanent association for Mr. Barnes with the Warner Bros.-First National Pictures.

SOL POLITO, who rates the Number One camera credit on "42nd Street" and "Gold Diggers," was chosen by Mr. Koenig for an encore of his splendid photography on the song and dance unit of "Footlight Parade."

In order to expedite completion of this big feature it was necessary to split the story into two separate production units. Busby Berkeley, the directing genius who rang the bell in the first two Warner musicals, has the responsibility for the direction of the numbers on "Footlight Parade." Mike Joyce is again with Polito as operator of the cameras, and Lou De Angelus is assisting.

JIMMY VAN TREES is photographing the Al Green production, "Red Meat," starring Edward Robinson. Jimmy continues with his last season's camera staff, which means that Lou Jennings does the hard work and Jimmy Van Trees, Jr. the hardest work. As mentioned elsewhere in these pages, this camera trio moves to Twentieth Century on long term contract upon completion of the Warner picture.

BARNEY (CHICK) MCGILL, who turned in such a creditable job on "Captured" with Doug Fairbanks, Jr. and Leslie Howard, is shooting the Roy Del Ruth production, "Bureau of Missing Persons." Chick also sticks to his old stand-bys—Ken Green, second, and Bill Whiteley, assistant.

ARTHUR TODD is photographing the William Wellman picture, "Wild Boys of the Road." Billy Schurr is operating the camera, and Vernon (New Poppa) Larsen is the assistant.

FRED JACKMAN has returned from a long Pacific cruise in his grand new yacht and is busily engaged planning intricate tricks, miniature and projection shots, for the heavy schedule of Warner features which lies ahead. Jackman's staff remains intact with Hans Koenekamp, Bun Haskins, Fred Jackman, Jr., Willard Van Enger and Russell Collins.

CHARLIE GLOUNER (formerly of Universal), acting head of the Warner Bros.-First National camera department, has made many architectural changes. The entire department has been remodelled into a fine modern lay-out. Cecil Myers and Stewart Higgs, who were Charles' right and left hand in the camera department at Universal, are associated with him in the Warner Studios.



# THE CHEMISTRY OF DEVELOPMENT

**Idiosyncrasies of Development Solutions — What Happens Inside the Tanks—The Chemicals Dramatized**

**By WARREN S. TRANSUE**

Photography is an industry (or an Art) wherein several departments function to produce one common end: a pleasing, technically good picture. This does not necessarily imply that each department is familiar with the technic of the other; that its processes are known or that there is at all times harmony among the several units.

It is repetitious to point out the prevailing ignorance in the Amateur world of the average person who snaps a picture with carefree abandon and then impatiently waits for the finished product to come back from that mysterious realm, the laboratory, usually with results that are an improvement upon the hodge-podge that he handed in, but which frequently arouse his ire.

In professional still photography, many skilled photographers or "light painters" are unaware of the methods whereby their work has been made complete and presentable. In proof of which witness the testimony of a very highly skilled technical photographer's testimony regarding the results upon examining a group of successful camera operators employed by him, as to their knowledge of "darkroom value and procedure."

He found them practically ignorant of the causes involved in good or bad, negative (or positive) making; they, seemingly, holding, subconsciously, the idea that the work of lighting and exposing was the end itself, instead of being merely the means to an end—the *positive print*.

This fallacious idea seems to hold good to a great extent today even in the motion picture field of photography; that the laboratory is a negligible little affair situated somewhere on the farthest corner of the lot, to be heard from *only when something goes wrong therein*. And, this, many times due to factors beyond the immediate power of the "lab" to control, and where the first mistake is costly, due to the concentrated monetary value inherent in that fragile little negative which

the "lab" hasn't the power to replace. Or to nonchalantly order another "take."

However, when a cameraman lights a set with a purposive lighting and makes an exposure his work on that film is done. The rest is in the hands of the laboratory or the "lap of the gods," if you will. His work of exposing the film has started what extends through many processes, but primarily it is the exposing of the light-sensitive components of silver bromide (usually), silver chloride or silver iodide, inherent in the film's emulsion, to the light and impressing thereon a so-called latent image which it is the laboratory's duty to make visible in as nearly perfect a manner as possible.

As to this resultant negative all cameramen are familiar with the blackened silver image in its range of tones from those of almost clear film in the shadows to, in some cases, an opaque black in the high lights. If they *know* a good negative from its looks, and its processing has been right, that negative is satisfactory. If something happens to be wrong with it, however, due to faulty exposure, lighting, or processing and they are unfamiliar with the results obtained by such causes there is likely to be confusion and the tendency *might* be to let the lab take the blame as "poor developing."

It will be taken for granted that most photographers are aware of the chemicals used in film developing if seen only as trade names in the various publications. These consist, basically, of four groups of chemicals, namely: the reducing agents, the preservative, the accelerators and the restrainers.

The purpose of a combination of these chemicals is to reduce, or blacken, the sensitive silver salts in an emulsion by taking from the silver the bromine or chlorine, released as gases, and leaving the silver behind in the form of a blackened silver image, corresponding in its range of densities, or tones, to those luminosities projected upon it through the camera's lens.

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## SHOOTING THE NEWS



The man on top of the sound truck here shown is Joseph Johnson, of Paramount News. The man looking up at him is no less a celebrity than Colonel Charles Lindbergh, who was just then preparing to take off for Washington.

For this purpose there exist what are called reducing agents, which do this work of silver reduction *and which are an absolute necessity in development.* Among the most prominent, universally used, are Rhodol and Elon, trade names for Metol, and of current usage in the studios; and Edinol, Serchol, Rodinal, Pyro, Glycin and Ortol used according to individual taste in the "still" world.

Metol, the studio favorite, is a soft, powdery, white chemical; is a rapidly-working reducing agent and the correct proportion of it is highly responsible for the gradual range of tones that pleases or offends the camera-man's eye.

However, each of these various agents has its different color grade of black. Some give a blue-black, some a warm-black and some an olive-black negative, each of which responds differently to the light penetration of the printing machine which is, therefore, a factor to consider in the development of different densities.

Practically, the speed of a reducing agent in blackening the silver image is called its "reduction potential," though a developer of this type may develop no faster than one with a lower reduction potential. It has, however, the faculty of acting better under adverse conditions or with compositional changes that would mean a radical change to one of the slower type.

Metol (Elon) is of this class of high "reduction potential." And, as is consistent with agents of this class, brings an image out quickly, building density slowly and commonly called a soft-working-developer. To overcome this undesirable and impractical soft quality Metol must be aided by density building reducing agents of which the most commonly used is hydroquinone. This is a slow-working agent as it brings the high lights first and builds slowly coming to the shadows when the high density is fully developed.

In combination these two agents produce varied and controlled results. Alone, hydroquinone is a very slow developer demanding great amounts and giving a green-

ish, hard brilliancy of great contrast. In combination with the more rapid and energetic Metol it acquires the latter's speed while imparting, by varying amounts, the desirable contrast to the metol and a range of black tones that vary greatly from soft blue-black to olive or warm tones.

These reducing agents cannot do their work except in the presence of alkalis, and here a new factor enters. Metol and the class of rapid silver reducers require much less or weaker alkalis than the less energetic hydroquinone, glycin, pyro, etc. But the speeds can be made approximate by differing the amount of alkali, usually sodium carbonate, except in cases where slow-working reducers are converted into rapid ones by the use of the powerful caustic alkalis, which practice, however, since machine development, has become obsolete.

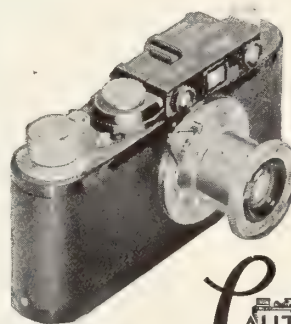
The carbonates, sodium and potassium, especially the sodium carbonate, are preferable since they have the faculty of acting as alkaline reservoirs, releasing a little at a time of their power; whereas in the caustic alkali, though the amount is proportionately smaller the action is intense and vigorous and rapidly diminishes.

With the carbonates comes the new factor of speed and quality change. Too little in a solution decreases contrast, also slowing development; too much, attacks the pores of the emulsion, so to speak, and causes excessive swelling, frilling and blistering; changes the quality from normal, increases contrast, then goes into a muddy brown. Grain increases, the high lights show a heavy fog and the negative (or positive) value becomes merely an indistinguishable image blot.

In the rack and tank days, as now, deterioration of the solutions was due to aerial oxidation and the freeing of the bromine and chlorine gases from the film. These were immediately converted by the alkali into silver

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An intriguing shot from "Hollywood Premier," a Technicolor, two reel masterpiece produced by M-G-M. Maurie Roth directed and Ray Renahan is the gentleman with the camera apparently hiding under the counter. He is not hiding; it is just one of the hard chores he has to do to hold his job.

bromide or chloride and acted as restrainers, thus slowing down development. The oxidation products, acting in the manner of a dye, stained the film until the resultant product was of an undesirable quality and unfit for good projection. In those days the human inspector watched this quality and saw to it that the preservative (sulphite) quantity was maintained and, though slightly longer developing time was necessary, the quality was pretty well normalized.

With the advent of developing machines, sound on film, and now gamma control, greater consistency in quality and permanence of developing solutions was demanded, which meant a greater change in developing formulas with the stress laid on the color and the preservative used, sodium sulphite.

This chemical has a strong affinity for oxygen and quickly oxidizes into sulphate of soda and, as developing solutions with an alkali *only* would oxidize and fog rapidly, the sulphite performs this function of oxidation, at the same time preserving the reducing agent for a longer life. In the case of the well known yellow image stain of pyro, the presence of sulphite prevents the oxygen attack and the resultant is a blue-black color and lacking the staining quality that exists with little or no sulphite.

Sulphite addition also has its color change action upon the image. As it is weakly alkaline in nature too much in a carbonate developer adds to the alkali and may cause fog. A great amount again creates what appears to be contrast or greater opacity, in some developers; and within certain limits a blue-black image can be obtained with sulphite control.

Where low reduction potential developers are used, such as hydroquinone, and which readily form oxidation products upon contact with the oxygen present at the water surface, the addition of an alkali makes developers of them; but they lose energy rapidly and the oxidation stain appears. Had sulphite been added first this would not have happened as the sulphite would have prevented oxidation and no fog appear.

In keeping the gamma and density-quality condition the same in machine development a continuous supply of fresh developer must be run into the solution in proportion to the footage quantity; and this must be proportioned higher in the reducing agents and preservative than the master formula and be minus any restrainer. All of which is calculated from day to day tests to get an average based upon the main formula.

In mixing the above named chemicals, the metol should be dissolved after a small amount of sulphite has been dissolved in water, as metol (especially the most commonly used Elon) is insoluble in a strong sulphite solution; whereas, if sulphite is added to an Elon solution minus previous sulphite, a precipitate is formed; but if some sulphite is added, next the metol, and then the remaining sulphite the solution will remain clear.

In the recently developed borax (an alkali replacing the carbonate) developers, the quantity of metol, etc., is greatly subordinated to hydroquinone, so that a great quantity of sulphite is a benefit to the hydroquinone which gives the color and contrast to the metol, aided by the sulphite.

In this solution the great concentration of sulphite is claimed to have the power of retaining some of the silver salts, later releasing same back onto the silver image a little at a time. This procedure similar to a method commonly called "physical development," is supposed to aid in the fineness of the silver deposit (grain), the consequent film being of finer quality upon greater enlargement.

This sulphite quantity is also liable to be the cause of the dense contrast of the highlights; and in the case of under-exposure (and under-development) this is a fatality as the range of tones, being partly non-existent, has absolutely no chance in this type of developer. An excess of metol would be a necessity here but would create other difficulties not so good.

It was of interest during the change over to the borax developer some years back to note the response to it by the various cameramen. Some of them noted a change, but couldn't define it; others were blissfully unaware of it despite a certain amount of trouble involved, while those men whose laboratory training was sufficiently advanced almost put their finger on the identical changes made. These men, however, were in a great minority.

(Turn to Page 31)

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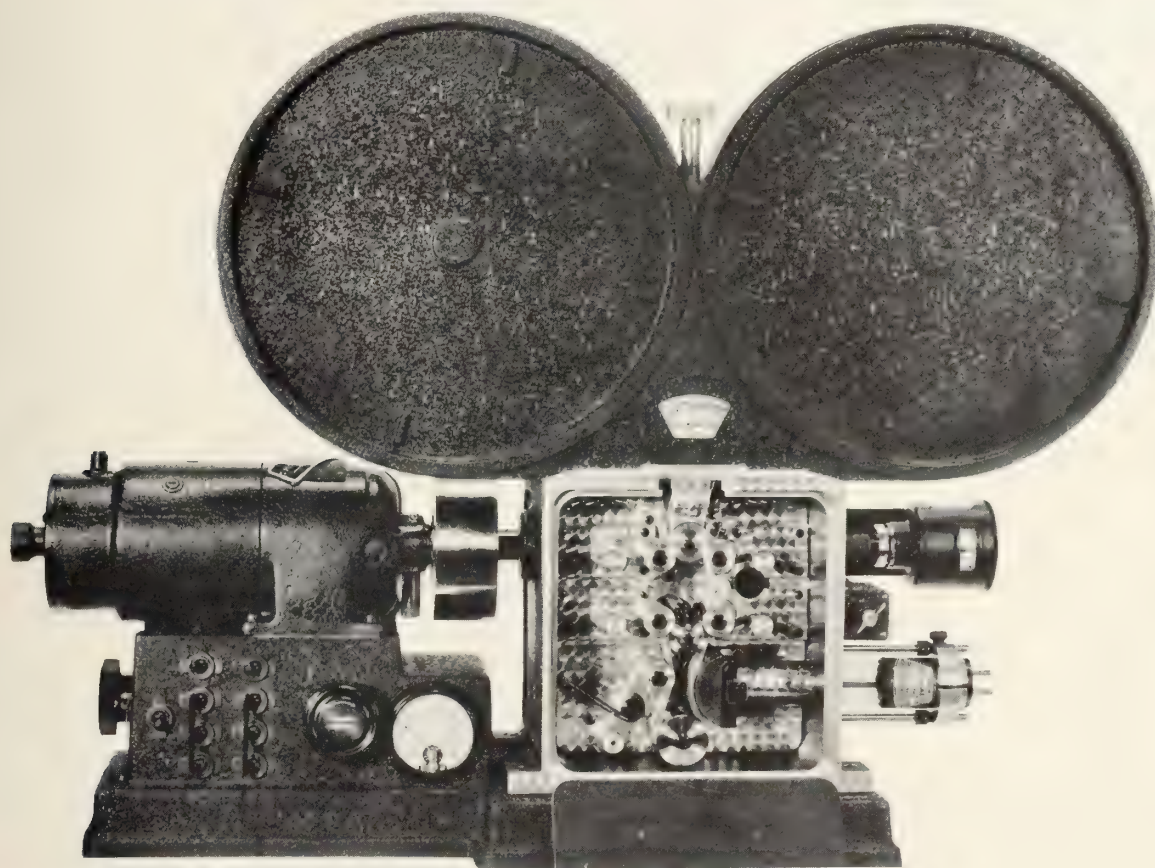
# Automatic Speed Control

By NEIL P. JACK, Chief Engineer, Sound Recording Services

Since the advent of sound, engineers in this field have been confronted with many problems, the solution of which has been comparatively simple under laboratory conditions, but under conditions of actual recording practice, these problems assume a different character due to the fact that portable equipment is constantly subjected to conditions of rough handling necessary in reaching remote locations and after being put into service must be operated at times with faulty or scant power supply, that cannot be corrected until a return is made to civilization or some city large enough to maintain an electrical supply house, where the supply may be replenished. The necessity of operating under these conditions has caused the consumption of great quantities of the proverbial midnight oil, and the graying of many heads that ordinarily would have retained their youthful appearance.

to normal and if the magazine load is severe or unequal the motors have a tendency to buck each other, causing the governor system to constantly cut in and out and never reach a condition of absolute stability. This condition creates a very disturbing distortion commonly termed as "wow wows." Another outgrowth of this condition is slippage and we all realize how hard it is to overcome the grief caused by pictures being "out of sync."

While there have been several systems developed recently that give excellent results, only one has proven outstanding enough to deserve comment. This system does not run to weight and complicated electrical and mechanical design, but is extremely rugged and simple, and requires no expert attention to keep it in operation. Its operation is simple. For example, instead of waiting for an error in speed, this device automatically checks and corrects the system approximately

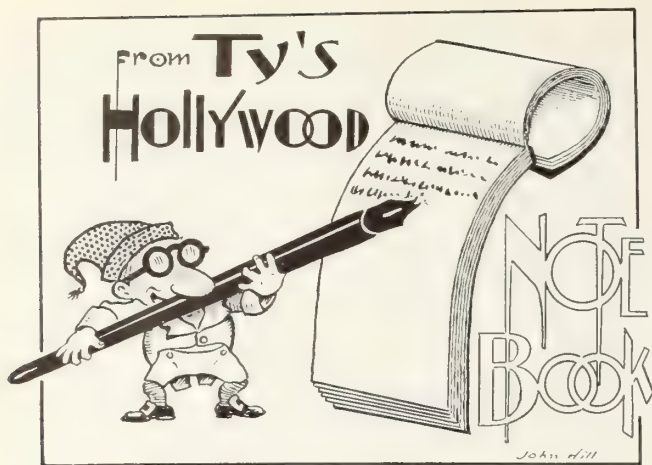


The Artreeves Sound Recorder, showing the new automatic speed control motor.

In the past three years it has been necessary for me to scour the field in search of direct current interlock type motors that would perform according to the claims of the manufacturers. Most combinations operate with some degree of reliability under ideal conditions, but none could be depended upon for consistent results. This was due greatly to the practice of relying on a mechanical governor of some type which made no correction until the motors had changed their speed. It may be readily seen that to make a speed correction by this method, is to introduce another speed change by bringing the system back to its correct operating speed. As all of such devices cause an appreciable electrical surge, the motor system with its attendant load, has a tendency to hunt its regulated speed, for if the speed has dropped, the mechanical governor makes contact, speeds up the motors, until they are slightly over speed, then breaks contact until the system slows down

twenty times per second in a very novel way. In other speed regulating devices the error occurs in the order of three or four times per second, so it may be seen that this new device operating twenty times per second actually prevents the error, and in exhaustive and thorough tests it was impossible to make the system hunt, and under no condition did the system go out of interlock. Since the completion of these tests more than ten productions have been completed on the new Artreeves recorders equipped with this device and having received confirming reports from all of the mixers in charge of these productions, I feel that it is safe to say we can forget this problem and thank the Hollywood Motion Picture Equipment Company and our old friend Art Reeves, for the development of a Direct Current Interlock Motor System that we can install and operate with a saving of midnite oil, less gray hair and keep our Mae West appeal.





Hollywood is developing a new profession. They are the reception committee for celebrated authors who are brought here. These new specialists are like gardeners in a hot-house. When another author sprouts elsewhere and shows signs of budding popularity he is brought here and transplanted with the hope that he will luxuriantly blossom forth. This captive author is expected to bear fruit between trains back home.

Leslie Charteris, the popular English author, is returning to England. He is a timid and likable person, who has lost the thrill of having new books come off the press. He has about fifteen books to his credit. After a pleasant chat, if his opinion is asked about Hollywood, he diffidently replies: "Now you want to spoil everything," but with twinkling eyes he gives it to you, ending with "—that's not for publication." He is greatly pleased with honest opinions of his literary contributions. His great success with the publisher and the reading public has made him, in a silent way, a bit vain, which is forgivable when one remembers a kindred feeling in our little successes. He may reasonably be proud of his ability of depicting the humorous elements of situations. Too many writers, after getting behind their typewriters, start to growl or mutter complaints.

The population of this town is divided in two classes; those that work and those that assist them. The cameraman has his assistant, the electrician, his helper, the executive, his relatives and those with large salaries have their assisting spenders. These assistants are a proficient lot; they know their trade well.

Earl Murch, assistant to Tom Little, the property chief at RKO, has a busy life. Murch catalogues all articles in the Property Department and zealously guards them as a mother chicken watching over her brood. He makes life hard for souvenir hunters, who like ants on a picnic, get into everything. All studios are infested with them. They will carry off anything that is not nailed down. If the item is too large to carry past the studio police they have been known to throw it over the rear fence where it is retrieved later. Instead of using insect powder or varmint catchers, the studios have large identifying numbers on everything. On glass the numbers are etched in the glass by acid; the number is painted on furniture and other objects.

Joe Murphy, who is termed the "Mayor of Cahuenga Boulevard," because of his long residence there, is also Hollywood's dean of prop men. He came here with David Horsley in 1911 and helped organize the first studio. "To get props in those days," he relates, "I had to go out and mow lawns, or do odd jobs, and then for salary borrow a table or something needed to make the next day's movie."

The studios are becoming self sufficient. They are like a state having laws, executives, politicians, literary critics, slaves, leisure class and factories. In the factories, everything is made, whether it be a bouquet of flowers, some extinct thing, or a piece of furniture. In the property rooms can be found rare Venetian furniture, with its pictures and trimmings in those delicate pastel shadings; Spanish pieces with the reddish upholstery; Victorian with its graceful lines; or nursery furniture with its nicks and dents. All are kept ready for pictures.

Ty is looking for the author who left Hollywood without making any derogatory comments. This author deserves a certain distinction for being different.

Lee Davis is an assistant cameraman de luxe. He, like the rest of his tribe, is a hard worker who must work while the cameraman spends his time being an artist. In the hand of a cameraman, the assistant is like the brush in the hand of an artist.

Ty applies to Hollywood, George Chappel's phrase, "not so evil as she was inelegant." Of course that doesn't apply to Ty's friends.

Let's say something about the women that wear slacks and other attire of men. Let's talk particularly about the ones with a large wheel base. The consensus of opinion is that they do this for the attention they attract and those with pockets four inches apart on the "differenital" certainly attract attention. Men look at these specimens with a curiosity similar to that aroused when conjecturing about the circus elephant.

The most bothered persons in our neighborhood are the mothers on the night that Mickey Mouse is showing around the corner. On this night her world is peopled with big, as well as little botherers. Her brood comes to her, bringing her hat, and when Muvver looks at their wistful eyes she decides that perhaps after all, an hour or so later in getting to bed won't be so awful bad. Any-way she would like to see "THE MOUSE" too!

The Four Marx Brothers admit that their fifth brother, Gummo, is a smart boy because he is in the clothing business.



A miniature wood carving used in a recent picture at RKO. This was carved by John Cerisoli and is so mechanically designed that the little men row the boat.

Statistics gathered through a questionnaire circulated to a group of twenty-six chorus girls indicate 50% of them are flying under false colors. Thirteen of them have changed the color of their hair through the use of those concoctions. We find out of the twenty-six that thirteen are blondes, six redheads and seven brunettes. The questionnaire indicated further, that besides being dissatisfied with their hair and wishing to better it, they also were quite ambitious to be independent and hoped to achieve that by becoming stars, leads or successful writers. All of them wanted to help somebody in a financial way.

(Turn to Page 46)

**ELMER C. RICHARDSON**

*The International Photographer* heartily congratulates the Guaranty Liquidating Corporation, into whose capable hands the settlement of the defunct Guaranty Building and Loan Association has been placed, upon its wisdom and foresight in electing Elmer C. Richardson to the presidency to succeed Mr. A. N. Kemp, resigned.

This journal also felicitates Mr. Richardson upon his election to this important post in the community and if personal integrity, intelligence, courage, sense of fair dealing and discrimination count for anything, in these days, we bespeak for the Guaranty Liquidating Corporation a future far brighter than the pessimists would be willing to concede.

Mr. Richardson has a fine background of service in this community; outstanding is his work as an instructor in our public schools and in his association with Mr. Peter Mole in the well known firm of Mole-Richardson, Inc., 941 N. Sycamore St., Hollywood, manufacturers of electric lamps and many other items of lighting equipment for the motion picture studios.

Mr. Kemp, retiring president, members of the Guaranty Liquidating Corporation, the business world of Hollywood, and the community in general, have received the new president with open arms.

**CHEMISTRY OF DEVELOPMENT**

(Continued from Page 28)

In negative developers where the carbonate is low, potassium bromide (a restrainer of fog) is usually left out. Where the alkali is high, as in positive developers, freshly mixed, a certain amount of fog is ineradicable, even with the bromide added, until a certain amount of film has been processed. Bromide added to the solution helps clear this fog until sodium bromide is deposited in the developer by the film, which clears this fogged condition plus changing the quality from a soft to an increase of contrast.

Bromide increases contrast, slows development and will give tones ranging from blue-black through pure black to a "hard" green, or brown-black which is of very poor printing or projection quality. If used with the rapid metol developers, greater amounts have less effect than do smaller amounts with slow reduction agents like hydroquinone, upon which the effect is greater.

Sometimes potassium iodide is used as a restrainer, and a fine abrasion remover, but care must be used, as too much causes a flat brown color that defeats its own purpose. Citric acid, another mild clearing agent, is sometimes used and except for a warmer tone in the case of an excess, has no other deterrent effects.

Potassium meta bisulphite, sodium meta bisulphite and sodium bisulphite are supposed preservatives sometimes used in conjunction with sulphite; especially in positive developers and the old two-solution pyro developers where it really is; but when it is added to an alkali, it is converted into sulphite, thus reducing the amount of carbonate and causing diminished developing power which apparently gives greater longevity to the solution, but where more sulphite could have been added at first. However, it has been observed that this chemical gives

# SUPER PARVO

THE  
SILENT  
CAMERA

ANDRE DEBRIE, INC.  
115 West 45<sup>th</sup> St.  
NEW YORK CITY

a pearly brilliance to positive high lights that is quite commendable.

Aside from the above named idiosyncrasies of developing solutions other things play a part in the chemistry of development.

Impure chemicals can cause trouble. The presence of copper and iron salts give rise to fog and color spots. And impure water can cause illimitable and elusive harm.

Fog, excluding light fog, comes from many sources. Aerial oxidation from solution contact with the air causes it; oxidation products formed in the developer, usually colored dye compounds, do it; some fumes like hydrogen sulphite cause fog; too low a temperature, forcing development or too high a temperature add their share.

And here we have, apparently an insignificant factor, yet one of much potency—temperature. Some reducing agents dissolve and remain so at fairly low temperatures. Others require higher temperatures and, if brought below that temperature, hydroquinone for instance, will go out of solution. If the normal temperature of development say is 70 degrees and it drops 10 degrees, slower development results; but instead of contrast we get an increasingly gray and brilliancy lacking film and eventually, fog. As temperatures increase a change from the blue or black color takes place until finally muddy tones lacking in definition result, combined with a mottled appearance, increased granularity of the image and the inevitable fog.

And aside from many other minor chemical and physical troubles, arising day by day, this is but the first of a series, the second stage of which is the hypo-ing (fixing of the silver image to a light-resistant condition and creating a transparent film condition) which, however, is another story with complications all its own.



# What's Holding Us Up?

(A PICTURELOG)

By OTTO PHOCUS

(The production referred to in this picture-log has been released for some time and the names used are phoney—if not funny.)

9:00 A. M. Electricians and grips are sitting around gas heater on Stage 3 trying to keep warm.

9:15 Sound man arrives. Goes to his report book and makes entry—"9:00 A. M. Sound ready." He looks for "mike" boom. Locates it and pushes it onto set; joins group at the heater.

9:16 Assistant cameraman bring cameras on set. Explain that had the other door been open they would have been there on time. They aim cameras into set and walk over to the heater.

9:18 Assistant director comes on stage and asks: "What's holding us up?" No one answers and he joins others at heater.

9:25 Cameraman arrives and starts to explain to assistant director that he had to stop at the laboratory to look at some negative. Assistant cameraman tells cameraman that the director has not arrived and cameraman stops explaining.

"What is the first shot," he asks assistant director.

"How should I know," replies the assistant director.

Cameraman moves a little closer to the heater.

9:30 Gibney McPugh, the director, arrives and as he comes through the door all the working crew scatter to different parts of the stage. The staff in unison say: "Good morning, Mr. McPugh," but being a Republican he does not answer. McPugh takes the nearest chair to the heater and sits on it (the chair, Silly).

9:32 Assistant director asks McPugh: "What will the first shot be?" McPugh replies: "Long shot," and adds, "Let me see my script." Cameraman holds hands over heater for a few seconds and then goes on set to line up shot.

9:45 Cameraman breaks down and confesses he is ready and would like to see the people that will be in the scene, if any. He receives no reply and walks back to heater.

9:48 McPugh finishes reading his script and tells his assistant, "I have changed my mind and will start with a close-up of Miss VaDillah, the leading lady, and then dolly back to a full shot of the set."

9:49 Assistant director goes for Miss VaDillah. Grips go for dolly and assistant cameramen go for the extras, as the cameraman moves his camera into set for a close-up.

10:05 Cameraman says, "Ready for Miss VaDillah," and walks back to heater. This is a fast cameraman. I mean he works fast. Quick on set-ups.

10:10 Miss VaDillah, hair dresser, chauffeur, publicity man and assistant director come on stage and go to heater. "Good morning," says Miss VaDillah. "Good morning," reply the crew. "How's everything?" asks the cameraman. "Terrible," replies Miss VaDillah with a smile. "Really, I feel bad. Something I ate, I guess." Then she takes vacant chair at heater and lights a cigarette.

10:15 "What's holding us up?" asks the assistant director. "Yes," from the director, "what's holding us up?" No one answers, so they all start for the set. Cameraman tells gaffer to "hit 'em," takes place behind camera to watch rehearsal.

10:20 McPugh starts to rehearse with Miss VaDillah and asks cameraman if he will save the lights. Cameraman tells a gaffer to "kill 'em" and crew go back to heater again.

10:25 McPugh finds out why Miss VaDillah feels so bad this morning and VaDillah finds out where McPugh had been the night before and as this is all settled McPugh calls for the assistant director and asks, "What's holding us up?" Assistant director asks cameraman if he is ready. Cameraman tells him he would like to see a rehearsal. McPugh tells cameraman they are through rehearsing and that he wants to shoot it.

"It's just a simple scene," explains McPugh, "I don't see why you need a rehearsal."

"I've got to see it with lights and I am sure the sound department would like to hear it just once," says the cameraman. The director condescends to let him have a peek and Miss VaDillah walks through the action.

10:30 "All ready to shoot," from the cameraman after making a few changes. "Sound ready?" asks the assistant director.

"Yes," replies the sound man.

"All ready to take it, Mr. McPugh," says the assistant director. Miss VaDillah leaves set and goes over to heater. Picks up make-up case and starts to check make-up. McPugh takes up morning paper. Crew go back to heater.

10:40 "What's holding us up?" asks the assistant director. No one answers. Miss VaDillah and crew leave heater and McPugh puts away his paper.

10:42 "Lights," calls the cameraman.

"Turn 'em over," orders the assistant director.

"Mark it!" yells the sound man.

"Action!" shouts McPugh to Miss VaDillah, who is just eight feet away.

"I wonder what's keeping Artie," says Miss VaDillah as she rises and goes over to the phone. The camera follows her and the dolly starts backward to get a full shot of the set.

10:42½ "Cut!" yells McPugh into the cameraman's good ear.

"Kill 'em!" calls the gaffer and the lights go out.

Miss VaDillah goes over to heater as "O. K." comes from sound and camera departments.

10:43 "That's fine," says McPugh, "print that."

"Print that," reply the assistant director, script clerk, cameraman and first assistant cameraman in rotation. The second assistant cameraman receives the order and makes his report accordingly.

10:44 McPugh takes out his watch and looks at the time—and says, "Well! We got a nice early start this morning."

"Yes, we did," comes from the crew, each and everyone knowing that they are lying.

"What's holding us up?" from the assistant director with a scowl, as he hates to have anybody "yes" McPugh. No reply as usual and he walks over to McPugh.

10:45 McPugh walks into set with assistant director and gives him a phone number to call. Assistant leaves set and entire crew go to heater where a discussion as to the relative merits of Eastside, Rainier, Acme, Schlitz (my favorite) and Blatz starts.

11:05 "What's holding us up?" asks the assistant director as he comes onto the stage and goes over to McPugh. He then whispers that they will not be able to deliver until after lunch.

11:06 "Is Mr. Demetri Fulphaze ready?" asks McPugh. "I will use him on the next shot."

11:07 Assistant director goes for Demetri as supervisor comes on stage.

11:08 McPugh and supervisor go into conference as they walk away from heater. Supervisor explains that he will loan some to McPugh until after lunch.

11:15 Demetri comes skipping onto the stage with a "cheery" good morning and backs up to heater. Miss VaDillah gives him a dirty look, leaves heater, goes into set and sits on divan.

"What's holding us up?" asks the assistant director once more. "Yes," wonders McPugh, "what's holding us up?" They leave heater and go back to set again.

11:16 "We will continue from where we left off," explains McPugh. "This is the scene where 'Meetie' comes through the door and sees Miss VaDillah at the phone. He crosses over to her, takes her in his arms and says 'darling' and then kisses her with fervor." "Can you remember your line?" asks McPugh.

"I think so," replies Demetri. "Let's rehearse it a few times."

"Let's shoot it and get it over with," requests Miss VaDillah.

11:20 Rehearsing. Demetri cannot remember his line. Miss VaDillah burning up. (This is a slow burn.)

11:23 Demetri remembers his line but has no fervor.

11:24 Assistant director goes to production office to report that Demetri has no fervor and is holding up the company. They refer him to scenario department.

11:25 "Let's take it," says McPugh. "It might be good."

The usual procedure is gone through and at last the cameras are photographing the scene and the sound department recording it. Just as Demetri is about to take Miss VaDillah in his arms the cameras stop. The cameraman unbuttons his camera, opens the door and finds out 50 feet of film has been accordion pleated around the constant sprocket.

11:26 Assistant director comes back from the scenario department and as he arrives on the stage he shouts, "What's holding us up?"

"THE CAMERA BUCKLED!" shout the entire staff and crew. This pleases the director very much as now he has something to charge the delay to. He goes over to the heater and sits down.

11:30 "Cameras ready!" comes from the cameraman and in a short time the scene has been shot and is in the "Box."

"Print that," requests McPugh and "Print that" is repeated down the regular channels.

11:33 Assistant director starts to get up from chair as McPugh tells cameraman to get a "close-up" of Demetri. Assistant director sits down again. Cameramen move cameras into set to get a close shot of Demetri.

11:40 "Where are you cutting him?" asks the director.

"At the middle of his vest," replies the cameraman.

"I want a close-up," orders McPugh. "Cut him at the neck."

"I'd like to," says the cameraman. Miss VaDillah hears this remark and with a loud "Ha! Ha" says "that makes it unanimous." Demetri stamps his foot, snaps his finger at Miss VaDillah and leaves the stage.

11:41 "Never mind the close-up, get a medium shot of Miss VaDillah and Demetri and we will do the 'kiss with fervor' over again, as it was terrible in the long shot." McPugh then goes over to the heater and takes his chair.

11:45 Demetri comes back from the washroom and the rest of the troupe come back on set and the "kiss with fervor" is rehearsed again and again.

11:50 "Please take it," pleads Miss VaDillah, "I feel faint and bad enough as it is and can't rehearse this many more times."

"All right," replies McPugh, "let's shoot it!" All departments are ready and McPugh moans: "Action!" McPugh orders scene cut and it has been O. K'd by all. McPugh congratulates Demetri. Miss VaDillah reaches for table and falls on floor. McPugh rushes in and helps Miss VaDillah to her feet.

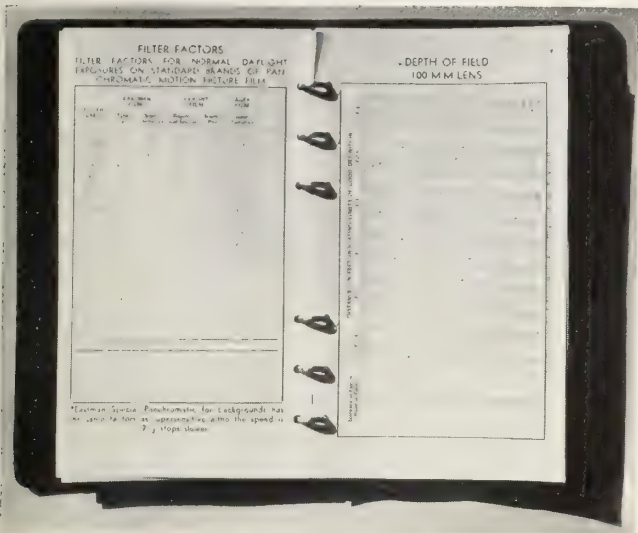
"I don't know what can be wrong with me, I feel so dizzy," she tries to explain. "That's all right," assures McPugh. "I will call lunch, take you up to your dressing room and help you take off that heavy costume you have on."

"I'm not that dizzy," says Miss VaDillah and passes out.

11:59 Just as the property man is bringing Miss VaDillah "to" in comes McPugh with another one that he has borrowed from the supervisor. All of the staff and crew are standing around the heater. Demetri Fulphaze is looking at himself in a mirror on the set. The assistant director looks at his watch and shouts:

"LUNCH!"

Everyone leaves the stage except an electrician who has been behind the set operating the switchboard. He places his lunch box on a chair, takes out a match and lights the heater—which had been out all morning.



This is the fourth installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's BOOK of TABLES

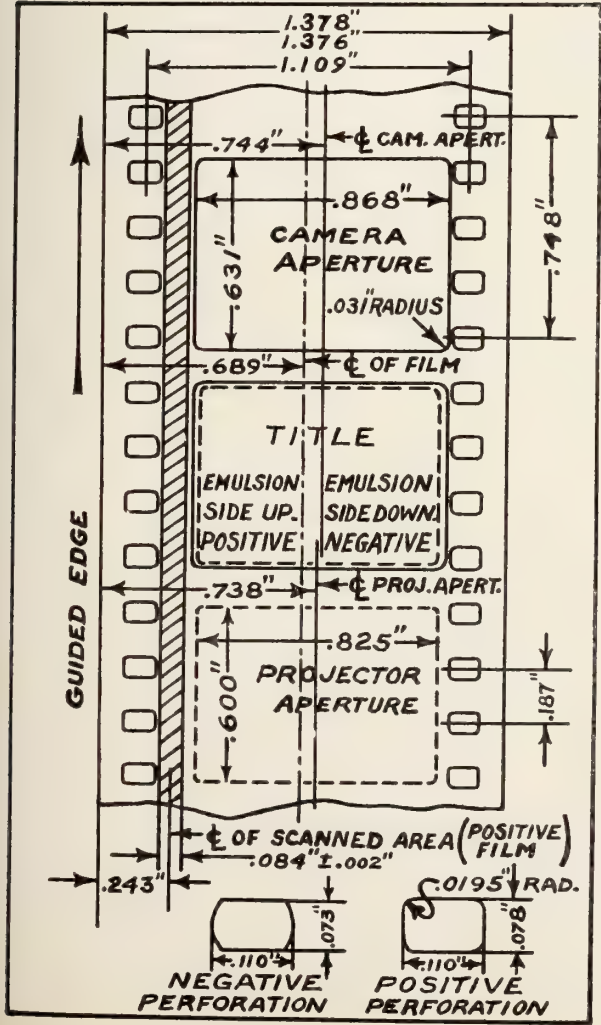
By FRED WESTERBERG

There are several more installments to come, concluding with the November issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 33; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 33 and 34. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index.

The accompanying cut is of a Lefax cover. It may be purchased from dealers at 75 cents.

## APERTURE SPECIFICATIONS STANDARD 35 mm. FILM



29

16

## DEPTH OF FIELD 40 mm. LENS

DISTANCES IN FEET INDICATING LIMITS OF GOOD DEFINITION										
Distance In Feet To Point To Focus	F-1	F-1.4	F-2	F-2.8	F-4	F-5.6	F-8			
1	.99 to 1.01	.99 to 1.01	.98 to 1.02	.97 to 1.03	.96 to 1.04	.94 to 1.06	.91 to 1.08			
2	1.97 to 2.04	1.95 to 2.06	1.93 to 2.08	1.90 to 2.11	1.86 to 2.16	1.81 to 2.22	1.74 to 2.35			
3	2.92 to 3.09	2.88 to 3.13	2.84 to 3.18	2.8 to 3.3	2.7 to 3.4	2.6 to 3.5	2.5 to 3.8			
4	3.86 to 4.16	3.8 to 4.2	3.7 to 4.3	3.6 to 4.5	3.5 to 4.7	3.3 to 5.1	3.1 to 5.8			
5	4.8 to 5.2	4.7 to 5.4	4.6 to 5.5	4.4 to 5.8	4.2 to 6.2	3.9 to 6.9	3.7 to 8			
6	5.7 to 6.4	5.6 to 6.5	5.4 to 6.7	5.2 to 7.2	4.9 to 7.8	4.6 to 8.8	4.0 to 11			
7	6.6 to 7.5	6.4 to 7.7	6.2 to 8.1	5.9 to 8.7	5.5 to 9.6	5.1 to 11.3	4.5 to 15			
8	7.4 to 8.7	7.2 to 9.0	6.9 to 9.4	6.6 to 10.3	6.1 to 11.6	5.6 to 14.0	5.0 to 21			
9	8.3 to 9.8	8.0 to 10.2	7.7 to 11.0	7.3 to 12.0	6.7 to 13.8	6.0 to 17.5	5.3 to 29			
10	9.1 to 11.0	8.8 to 11.6	8.4 to 12.4	7.8 to 13.8	7.3 to 16.3	6.5 to 22	5.7 to 43			
11	10.0 to 12.5	9.6 to 12.9	9.0 to 14.0	8.5 to 15.7	7.8 to 19	7.0 to 27	6.0 to 70			
12	10.8 to 13.6	10.3 to 14.3	9.8 to 15.5	9.0 to 17.7	8.3 to 22	7.3 to 36	6.2 to INF			
13	11.6 to 14.9	11.0 to 15.7	10.4 to 17.3	9.5 to 20.0	8.7 to 26	7.7 to 44	6.5 to INF			
14	12.4 to 16.2	11.7 to 17.2	11.0 to 19.0	10.0 to 22.5	9.0 to 30	8.0 to 58	6.7 to INF			
15	13.1 to 17.5	12.5 to 19.0	11.7 to 21.0	10.5 to 25	9.5 to 36	8.3 to 82	7.0 to INF			
16	13.9 to 18.9	13.2 to 20.5	12.3 to 23.0	11.0 to 28	10.0 to 42	8.5 to 123	7.2 to INF			
17	14.6 to 20.3	13.7 to 22.0	13.0 to 25.0	11.5 to 32	10.3 to 49	8.8 to INF	7.3 to INF			
18	15.4 to 21.8	14.5 to 23.8	13.5 to 27.5	12.0 to 35	10.7 to 59	9.0 to INF	7.5 to INF			
19	16.1 to 23.2	15.0 to 25.7	14.0 to 30.0	12.5 to 40	11.0 to 71	9.3 to INF	7.8 to INF			
20	16.8 to 25.0	15.7 to 27.5	14.5 to 32.5	13.0 to 44	11.3 to 87	9.7 to INF	8.0 to INF			
25	20 to 33	18.7 to 38	17.0 to 48	15.0 to 78	13 to INF	10.5 to INF	8.5 to INF			
30	23 to 42	21 to 51	19 to 71	16 to 163	14 to INF	11 to INF	9 to INF			
40	29 to 65	26 to 88	22 to 175	19 to INF	16 to INF	12 to INF	10 to INF			
50	34 to 97	30 to 138	25 to INF	21 to INF	17 to INF	13 to INF	11 to INF			

Based on an allowable circle of confusion of .002 of an inch



## NEW LAMPS

(Continued from Page 19)

of forming an intimate part particularly of our city life—standing out predominantly among the advertising displays on every thoroughfare. The bright line sources of color made possible many striking effects not attainable with spaced point sources.

A new luminous tube product has been made available which makes possible even more striking effects—being characterized by an enormous increase in brilliancy over that attainable with the conventional tubing.

This new product is produced by the Electrical Products Corporation under the trade name of "Lumenarc."

Lumenarc tubing is briefly described as being a high intensity arc discharge between hot cathodes at input voltages of 110 to 1200 volts as differentiated from the conventional Neon Sign Tubing which is described as being a low intensity glow discharge between cold cathodes at transformer voltages of 3,500 to 15,000 volts.

The conventional Neon tubing, by reason of its low lumen output was applicable only in cases where the source was visible. The greatly increased lumen output of Lumenarc Tubing, however, renders this type of tubing applicable in the general field of lighting.

Lumenarc is produced in three colors—Red, Blue and Green.

By proper combination of such tube sources a good subjective approximation to light of daylight quality is produced. A combination of Blue Lumenarc Tubing and Incandescent Lamps develops a light output composed of the line spectra of the tubular source superimposed upon the continuous emission of the lamps and this combina-

tion, when properly balanced, produces a subjective effect even more closely approximating daylight quality.

This second combination permits of developing considerable total light output with a lower total wattage input to the tubular sources. With the energy inputs to the lamps and the tubes bearing a ratio of the order of four to one a good daylight approximation is obtained. The luminous efficiency of the combination is essentially the same as that of the lamps alone. The blue quality of Blue Lumenarc is delivered through the clear glass of the tube. Higher efficiencies result therefor, than can be obtained through the use of filtered sources.

The use of Lumenarc Tubes in combination or in conjunction with Incandescent Lamps results in a high quality of illumination and represents a distinctly modern method of bringing daylight indoors.

Unit No. 3 treats of the use of Mazda lamps for color photography, a paper of timely interest in view of the fact that two satisfactory systems of three color motion picture photography are said to be commercially available and people interested in color are naturally interested in this improved light source.

By increasing the voltaging of the lamps greatly increased volume of light results, but the light is of improved color quality and peculiarly applicable to color photography.

An example of the action of the Mazda lamps under increased voltage is interesting: A 10% increase in volts gives 16% increase in watts, but a 40% increase in light output, or, as in the case of the small Photoflood lamp, 80% increase in volts increases the wattage 2½ times, but raises light volume five and one-half times.

15

30

DEPTH OF FIELD  
35 mm. LENS

DISTANCES IN FEET INDICATING LIMITS OF GOOD DEFINITION									
	F-1	F-1.4	F-2	F-2.8	F-4	F-5.6	F-8		
Distance In Feet To Point of Focus									
1	.90 to 1.01	.98 to 1.02	.97 to 1.03	.96 to 1.04	.95 to 1.05	.94 to 1.07	.92 to 1.10		
2	1.05 to 2.05	1.93 to 2.07	1.90 to 2.10	1.85 to 2.15	1.80 to 2.20	1.75 to 2.30	1.66 to 2.5		
3	2.06 to 3.11	2.85 to 3.16	2.79 to 3.24	2.7 to 3.3	2.6 to 3.4	2.5 to 3.7	2.3 to 4.3		
4	3.81 to 4.21	3.7 to 4.3	3.7 to 4.4	3.5 to 4.7	3.3 to 5.0	3.1 to 5.5	2.8 to 4.5		
5	4.7 to 5.3	4.6 to 5.5	4.5 to 5.7	4.3 to 6.0	4.0 to 6.6	3.7 to 7.7	3.4 to 10.0		
6	5.6 to 6.5	5.5 to 6.7	5.3 to 7.0	5.0 to 7.6	4.7 to 8.5	4.3 to 10.0	3.8 to 13.6		
7	6.5 to 7.7	6.2 to 8.0	6.0 to 8.4	5.7 to 9.3	5.2 to 10.7	4.8 to 13.6	4.2 to 23		
8	7.3 to 8.9	7.0 to 9.2	6.7 to 10.0	6.3 to 11.1	5.8 to 13.2	5.0 to 18	4.5 to 40		
9	8.1 to 10.1	7.7 to 10.2	7.3 to 11.7	6.8 to 13.1	6.2 to 20	5.6 to 24	4.7 to 95		
10	8.9 to 11.4	8.5 to 12.1	8.0 to 13.3	7.4 to 15.3	6.7 to 24	5.9 to 33	5.0 to 116		
11	9.7 to 12.7	9.2 to 13.6	8.7 to 15.1	8.0 to 17.8	7.2 to 24	6.3 to 47	5.3 to 116		
12	10.4 to 14.2	10.0 to 15.2	9.3 to 17.1	8.5 to 20.6	7.6 to 29	6.6 to 72	5.5 to 116		
13	11.2 to 15.5	10.6 to 16.7	9.9 to 19.3	9.0 to 23.7	8.0 to 36	6.9 to 121	5.8 to 116		
14	11.9 to 17.0	11.3 to 18.6	10.4 to 21.6	9.5 to 27.3	8.3 to 45	7.0 to 116	6.0 to 116		
15	12.6 to 18.5	11.9 to 20	10.9 to 24	10.0 to 31	8.7 to 57	7.3 to 116	6.2 to 116		
16	13.3 to 20.2	12.6 to 22	11.5 to 27	10.3 to 36	9.0 to 75	7.5 to 116	6.3 to 116		
17	14.0 to 21.6	13.0 to 24	12.0 to 31	10.7 to 42	9.3 to 106	7.8 to 116	6.4 to 116		
18	14.7 to 23.3	13.8 to 26	12.5 to 33	11.0 to 48	9.5 to 142	8.0 to 116	6.5 to 116		
19	15.3 to 25	14.4 to 28	13.0 to 36	11.4 to 56	9.8 to 300	8.2 to 116	6.6 to 116		
20	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
21	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
22	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
23	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
24	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
25	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
26	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
27	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
28	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
29	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
30	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
31	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
32	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
33	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
34	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
35	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
36	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
37	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
38	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
39	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		
40	16 to 27	15 to 30	13.5 to 40	11.8 to 60	10 to 116	8.3 to 116	6.7 to 116		

based on an allowable circle of confusion of .002 of an inch.

WEIGHTS AND MEASURES  
CONVERSION TABLES

## METRIC EQUIVALENTS

1 Yard	=914.4 MM
1 Inch	=25.4 MM
1 Pound	=453.59 Grams
1 Ounce	=28.35 Grams
1 Grain	=.0648 Grams
1 Gallon	=3.785 Liters
1 Quart	=.946 Liters
1 Pint	=.473.18 C.C.
1 Liquid Ounce	=29.574 C.C.

## U. S. EQUIVALENTS

1 Metre	= 39.37 Inches
1 Millimetre	= .03937 Inches
1 Kilogram	= 2.2046 Pounds
1 Gram	= 15.432 Grains
1 Gram	= .03527 Ounce
1 Liter	= .26418 Gallon
1 Liter	= 1.0567 Quart
1 Liter	= 33.8135 Liq. Ozs.
1 Cu. Centimetre	= .338 Liq. Ozs.

MILLIMETRES TO INCHES  
AND  
INCHES TO MILLIMETRES

MM	Inches	Inches	MM
1	.03937	.001	.0254
2	.07874	.002	.0508
3	.1181	.003	.0762
4	.1575	.004	.1016
5	.1968	.005	.1270
6	.2362	.006	.1524
7	.2756	.007	.1778
8	.3150	.008	.2032
9	.3543	.009	.2286
10	.3937	.01	.254
11	.4330	.02	.508
12	.4724	.03	.762
13	.5118	.04	1.016
14	.5512	.05	1.270
15	.5905	.06	1.524
16	.6299	.07	1.778
17	.6693	.08	2.032
18	.7086	.09	2.286
19	.7480	.1	2.54
20	.7874	.2	5.08
21	.8267	.3	7.62
22	.8661	.4	10.16
23	.9055	.5	12.70
24	.9448	.6	15.24
25	.9842	.7	17.78
35	1.3780	.8	20.32
40	1.5748	.9	22.86
50	1.9685	1.0	25.40

## EMERGENCY WEIGHTS

New Coins	Grains	Grams
Dollar	412.50	26.73
Half	192.90	12.50
Quarter	96.45	6.25
Dime	38.58	2.50
Nickel	77.16	5.00
Cent	48.00	3.11

GRAMS TO GRAINS  
AND  
GRAINS TO GRAMS

Grams	Grain	Grains	Grams
1	15.43	1	.065
2	30.86	2	.130
3	46.29	3	.194
4	61.73	4	.259
5	77.16	5	.324
6	92.6	6	.389
7	108.0	7	.454
8	123.5	8	.518
9	138.9	9	.583
10	154.3	10	.648
20	308.6	20	1.296
30	462.9	30	1.944
40	617.3	40	2.592
50	771.5	50	3.240
60	925.8	60	3.888
70	1080	70	4.536
80	1235	80	5.184
90	1389	90	5.832
100	1543	100	6.480

## HERE'S THE JOB— WHERE'S THE MAN?

One of the things most needed in this country is a foundation to finance and protect inventors—to make the world safe for inventors and their inventions.

There is no greater agony and distress anywhere than among the inventors and, as something has to be done about it sometime, then why not now?

From time immemorial the inventor has been regarded as legitimate prey by the tin-horn promotor and, that particular brand of inventor having to do with the motion pictures and allied industries, has been exploited until he has been forced into the ranks of the sans culottes.

Of course the inventor has not cornered all the brains in the world although, to hear him tell it, he is always right and everyone else is always wrong, especially the man with the money.

On the other hand—the man with the money is not unlikely to regard the inventor as either a crazy man or a horse-thief or both. Sometimes the inventor entertains this same view of the capitalist and the result is that the twain manage to keep up a fair imitation of civil war to the great detriment of both and of the motion picture industry in general.

The woods are full of aspiring inventors who have already completed useful gadgets for the improvement of cinematography in many of its departments or who are researching along original lines with sufficient encouragement to justify them in feeling that they have good chances to succeed, but who have no funds to continue.

This writer alone has a list of reliable, efficient men, most of them members of the International Photographers, who are worthy of adequate financial help to bring their inventions to the status of letters patent and into the commercial field.

These new inventions include two projection lamps, three silent projectors, one silent camera motor, one 3 dimensional camera, two photo-electric cells, two color systems, one simple appliance for a three color system (attachment to regulation projector), two continuous cameras, one continuous projector, small pocket focal-plane shutter camera, one printer, two motion cameras, one 16 mm. silent camera and projector, one color cartoon system, two lenses, one metal indestructible film, one Diesel engine, one television system for home hook-up, one radio improvement appliance, new chemicals, robot for radio remote control to be used for crashing planes, ships, railroad trains, etc., in motion pictures, a new theory of light and a light meter, automatic machine for painting large wall advertisements, etc.

If this be true of Hollywood, imagine, therefore, the great flow of inventions when a field the size of the United States is contemplated. Consider now with the writer in thoughtful amazement what a wealth of new achievement could be unloosed if

## New H.C.E. Combination Sunshade — Filter Holder



### LIGHT — COMPACT — SIMPLE QUICKLY ATTACHED

Approved by world's foremost camera manufacturers and photographers. Made to fit any still camera lens; also 16 mm. and 35 mm. motion picture camera lenses.

#### CUT YOUR COST

Two-piece construction holds filter firmly and permits change of filters without use of individual holder for each filter.

#### A BOON TO LEICA AND CONTAX USERS

Permits shooting toward light and eliminates lens and filter glare.

**HOLDER, \$3.50 and up — FILTERS, \$1.50 and up**  
If your dealer cannot supply you—order direct.

Designed and Manufactured by

### Hollywood Camera Exchange

Dealers in Everything Photographic  
1600 N. Cahuenga Blvd., Hollywood, Calif.  
Phone HOLLYWOOD 3651

there existed an intelligent, honest and financially able foundation to separate the wheat from the chaff and finance such inventions—a clearing house to handle every phase of such transactions from the conception of an idea, through preliminary financing, technical research, test, demonstration and patent procedure, to corporate organization, major financing, manufacture, promotion and commercial distribution.

Honestly, intelligently, unselfishly and public spiritedly administered by engineers and experts with a lively sense of duty to mankind and to the nation, such an institution would very soon become an agency for immeasurable good—the insurer of a square deal to all concerned and the conserver of the inventive wealth of the country and even of the world.

Here is an untouched field of endeavor—a long felt want—a tremendous opportunity to perform an unparalleled public service and incidentally to make a lot of money.

Oh, for a Thomas A. Edison, a Carnegie, a Ford, a Rockefeller to create and organize such a foundation!

Who will fill this long felt want! Here's the job—where's the man?

### AKER'S CAMERA

(Continued from Page 5)

Irving Akers' first flight was in 1916. Since then he has flown 6,000 hours, over a half of which has been with a camera—and if anywhere on the face of the earth there be a photographic record submerging this it will make interesting reading.

In the intervening years Akers has accumulated trans-

port pilot license No. 9663, with both land and sea ratings; airplane and mechanics license No. 9350, and Federation Aeronautique Internationale license No. 4008. Also at different times he has owned two aerial photographic companies.

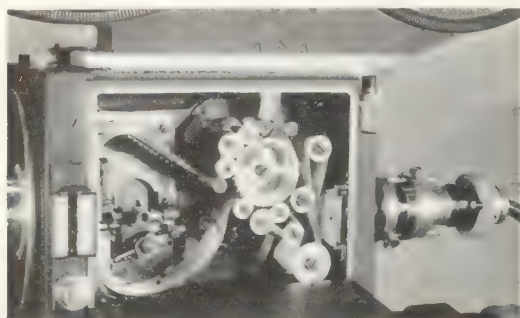
The inventor has just completed shooting on "Sky-larks," a single reel stunt air picture, designed to demonstrate the versatility of his new camera in air work.



# TEK-NIK-TOWNE

TO FAR AWAY INDIA

The Mitchell Camera Company have recently shipped to Bombay, India, a Mitchell Newsreel Camera. This camera was equipped with Artreeves Optical Unit Re-



cording Lamp and Sound Equipment for single system. The illustration shows the method of mounting. Artreeves and the Mitchell Camera Company are to be congratulated on the promptness with which this order was filled, the camera being equipped, thoroughly tested and shipped within two weeks from the time of reception. The order was placed by the Movie Camera Company of Bombay, India, who are the Indian Agents for the Artreeves Sound Recording System.

## NEW TYPE MOVIE THRILLER

A new type of movie thriller in which the heroes hobble on crutches instead of riding bucking bronchos is being shown at A Century of Progress in Chicago. World's Fair officials and Miss Isabella Dolton, assistant superintendent in charge of special schools division of the Chicago Board of Education, together with W. F. Kruse, head of the Educational Department of the Bell & Howell Company, cooperated in the taking of the film which depicts the work being done in the Spalding and Brown schools, in Chicago, for handicapped children.

The movie is in two reels and shows the progress made in training crippled, blind, deaf, and otherwise defective youngsters. A century ago society generally considered these children "not worth bothering with;" today, as evidenced by these movies, such children are the subject of serious study and effort.

The picture is being shown in the department of public welfare in the Hall of Science at the Chicago fair. It was made on 16 millimeter film with a Bell & Howell personal movie camera.

## JACK SMITH JOINS DAVIDGE

Jack Smith, who has been prominently identified with motion picture laboratories for many years, is now associated with the Roy Davidge Laboratory as superintendent in charge of sensitometric control and negative development. He brings to this new position a vast laboratory experience which dates from 1913, when he started with D. W. Griffith in the old Fine Arts Studio.

During the past four years Mr. Smith has been identified with Universal and previous to that time had been for six years superintendent of the Bloom Film Laboratory.

## GLORIFYING NEWSREELMEN

West Coast Bur., THE FILM DAILY.

Hollywood—Sid Rogell will supervise a story, not yet titled, dealing with the newsreel cameraman for Columbia. RKO also is making a newsreel story.

UBIQUITOUS

Pete Shamray, the handsome, husky laboratory expert, is on the firing line for Dupont so effectually that he seems to be everywhere at once. Pete is in training to win the Fifth Annual Golf Tournament of Local 659, but he is too modest to admit it.

## REMOVAL

Don Keyes, veteran cameraman has moved his studio and home from 635 North Highland Ave. to 241 South Norton Ave. Between picture assignments Don Keyes specializes on distinctive portrait photography.

## KERSHNER SCORES

Glen Kershner is being felicitated by his many friends upon his fine work in "His Silent Racket," a Charley Chase comedy shown recently at Loew's State Theatre. The comedy was exhibited on a bill with "Peg o' My Heart," starring Marion Davies, one of her best.

## WELCOME

The Miniature Camera Club of New York has just issued Volume 1, No. 1 of their new house organ, "The Miniature Camera." It is a ten page book 7¼ x 10 and is chock full of good live stuff that THE INTERNATIONAL PHOTOGRAPHER is moved to welcome not only with cordial good will, but with the prognostication that it has before it a most useful and prosperous future. Come in, New Member, and hang up your hat.

## ARTREEVES

One of the Artreeves famous sound recorders is at work in the Century of Progress exposition at Chicago. It is being operated by Eugene Cour, well known cameraman of Chicago, who is also editor and of that snappy little book Cinema Crafts. The Cinema Crafts Year book for 1933 will be off the press early in July.

## HOME OF ANIMATOGRAPH



The factory of the Victor Animatograph Corp., located at Davenport, Iowa, occupies four floors in this building and the majority of the power equipment is located on the second floor.

All manufacturing in connection with the construction of Victor cameras, projectors and stereopticons, with the exception of casting and plating, are handled in this plant. This includes painting and baking the finished product.

The main offices of the company are located on the first floor. The basement floor is used for some manufacturing operations, such as stamping, etc., for housing the Victor modern printing plant and photographic departments and for some storage. The second and third floors are occupied by the manufacturing, assembling and testing departments. The normal operating force averages 100 or more persons.



### SCHEIBE

The Mitchell Camera Company recently fabricated a special holder for a Scheibe graduated diffusing screen. This permits starting a dolly shot from a close-up, with diffusion and then dollying back to a full shot, without diffusion.

### IMPORTANT NOTICE

U. S. Navy Accredited Photographers Cards expire July 1st and should be renewed at once. Gene Owen Hagberg has been appointed representative for this district by the Commandant of the Eleventh Naval District, San Diego, and all renewals and applications for cards should be handled by him. Any member of this organization submitting proof of American citizenship may apply for Accredited Photographers card by obtaining application blank from Mr. Hagberg, c/o this office.

### THE TRAILERS

Harry Gant reports that Spring Round Up No. 3 of The Chuck Wagon Trailers, Inc. was held on La Providencia Rancho, Burbank, May 21, 1933 with an attendance of over 400. "Come and get it!" was hollered at noon—the featured viands of the fiesta being barbecued maverick with something the cook makes in a sack. Some of these days a smart producer is going to get rich by building a great Western epic around these same "Chuck Wagon Trailers." Stick a pin here.

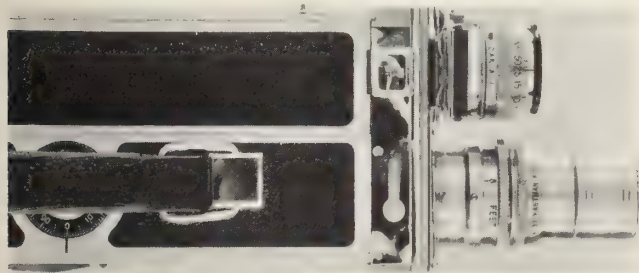
### NEW SUN-SHADE AND FILTER HOLDER

Cliff Thomas, of the Hollywood Camera Exchange, announces a very practical accessory for small cameras. It is a sun-shade and filter holder which will prevent glare and stray light hitting the lens.

### THE CINE-KODAK SPECIAL

The accompanying illustration exhibits the Ciné-Kodak Special as possessing a turret head for two lenses. Lenses are quickly interchangeable on the turret head, which will accommodate the various lenses that are available for the Ciné-Kodak Special.

A reflex finder, which cuts in on the main lens system



of the camera, thus shows the image actually formed by the taking lens. By the use of this finder, both the exact picture field and the precise focus may be obtained, even in such extreme close-up position as when the camera is only an inch or two from the object to be photographed. Such an extreme close-up necessitates the use of proper supplementary lenses. Backed film as well as clear-base film can be used without hindering this finder's operation.

The camera is also equipped with the usual direct view finder.

A complete description of the Ciné-Kodak Special was published in *The International Photographer* for May.

### KNECHTEL ABROAD

Lloyd Knechtel is on his way to London where he goes to take a position in the laboratories of Randal Perraneau, owner of the Dunning Process rights in England. Mr. Perraneau is also one of the partners in the

George Humphries Laboratory, London. Mr. Knechtel will take to the job a profound knowledge of trick cinematography and he carries with him the good wishes of Local 659 and a host of personal friends.

### MAXFACO

The illustration shows the Hollywood home of the Max Factor Company. Under this roof are housed the many departments necessary to supply the world with make-up for street, motion pictures and stage.



Among these are a few departments of interest to the motion picture profession, such as the General Make-up Department for average motion picture and stage make-up; a Studio Research Department, part of whose work is the creation of distinct characterizations for production purposes.

The Hair Department is under the able direction of Perc and Ern Westmore, specializing in natural creations in both straight and character work to fit any mode or period.

This service has primarily been established for the benefit of all major producers and artistes.

### INSTALLS PRINTERS

Metro-Goldwyn-Mayer has ordered a battery of the recently developed Bell & Howell automatic sound and picture film printers to be installed in the M-G-M Hollywood studios. The order was placed following a series of exhaustive tests.

This printer, which was the result of over three years of experimentation by the engineers of the Bell & Howell Engineering Laboratories of Chicago, permits the simultaneous printing of sound wave and picture records on talking motion picture films used in movie theatres, instead of printing sound and pictures separately.

Due to a number of important factors, the resulting prints are said to give fuller tone effects and better and clearer pictures than have heretofore been possible.

The new printer is fully automatic and its automatic functioning, including the positive and instantaneous change of printing light, is so effective that one untrained worker can operate six machines.

### PROJECT-O CO.

The Educational Project-O Film Company, of which Phil Meisenzahl is manager, has recently moved from 317 North Fairfax Ave. to "Camera Row," 1611 North Cahuenga. They are the exclusive DeVry dealers in Los Angeles. Mr. Meisenzahl has been in business fifteen years and has moved to this location in order to provide a more central and suitable headquarters for his many clients and friends.





# ON THE FIRING LINE

By HELEN BOYCE

## FOX STUDIO

G. J. Fischer, Head of Camera Department

**"PADDY, THE NEXT BEST THING."** Producer, Winfield Sheehan; author, Gertrude Page; screenplay by Edwin Burke; director, Harry Lachman; assistant director, Jack Boland; first cameraman, John Seitz; operative cameramen, W. Skall and S. Wagner; assistants, L. Moling and F. McDonald; stills, Anthony Ugrin; recording engineer, Joseph Aiken; assistant, K. Strickfaden; film editor, Margaret Clancy; art director, Gordon Wiles.

Cast: Janet Gaynor, Warner Baxter, Harvey Stephens, Margaret Lindsay, Walter Connolly, Mary McCormic, Roger Imhof, Merle Tottenham.

• • • • •

**"THE LAST TRAIL."** Producer, Sol M. Wurtzel; author, Zane Grey; screenplay by Stuart Anthony; director, James Tinling; assistant director, Percy Ikerd; first cameraman, Arthur Miller; operative cameraman, J. LaShelle; assistants, W. Abbott and H. Webb; stills, Ray Nolan; recording engineer, Bernard Fredericks; assistant, H. A. Root; film editor, Barney Wolf; art director, Duncan Cramer.

Cast: George O'Brien, Claire Trevor, El Brendel.

• • • • •

**"LIFE'S WORTH LIVING."** Producer, Winfield Sheehan; author, James Gould Cozzens; screenplay by Paul Green and Jane Storm; director, John Ford; assistant director, Ed. O'Ferna; first cameraman, George Schneiderman; operative cameraman, C. Fettes; assistants, J. Corgon and L. Kunkel; stills, Gene Kornman; recording engineer, E. F. Grossman; assistant, C. Dwyer; film editor, Louis Loeffler; art director, William Darling.

Cast: Will Rogers, Vera Allen, Louise Dresser, Marian Nixon, Ralph Morgan, Boots Mallory, Howard Lally, Andy Devine, Roger Imhof.

• • • • •

**"SHANGHAI MADNESS."** Producer, Al Rockett; author, Fredrick Hazlitt Brennan; screenplay by Austin Parker; director, John Blystone; assistant, Jasper Blystone; first cameraman, Lee Garmes; operative cameraman, J. Schmitz and S. Cortez; assistants, W. Cruse and H. C. Smith; stills, Emmett Schoenbaum; recording engineer, W. W. Lindsay; assistant, J. Sigler; film editor, Alex. Troffey; art director, Jack Ottorton.

Cast: Spencer Tracy, Fay Wray, Ralph Morgan.

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## RKO STUDIOS

William Eglinton, Head of Camera Department

**"FLAMING GOLD."** Producer, Sam Jaffe; author, Houston Branch; screenplay by Malcolm Stuart Boylan and John Goodrich; director, Ralph Ince; assistant director, Bob Margolis; first cameraman, Charles Rosher; operative cameraman, Frank Redman; assistant, Cecil Cooney; stills, Fred Hendrickson; recording engineer, E. A. Wolcott; assistants, J. C. Grubb and Fred Hynes; film editor, George Crone; assistant, Desmond Marquette; art directors, Van Nest Polglase and Carroll Clark; chief electrician, W. G. Boles; chief grip, Marvin Wilson; chief prop, Sammy Ruman.

Cast: William Boyd, Mae Clarke, Helen Ware, Pat O'Brien, Rollo Lloyd.

• • • • •

**"THE GLORY COMMAND."** Producer, Glendon Allvine; author, Christy Cabanne; screenplay by F. McGrew Willis and Frank Wead; assistant director, Tommy Atkins; first cameraman, Al. Gilks; operative cameraman, Harry Wild; assistant, Charles Burke; recording engineer, Clem Portman; assistants, Byron Thomas and Bailey Fesler; film editor, Basil Wrangell; assistant, Artie Schmidt; art director, Van Nest Polglase; chief electrician, Argyle Nelson; chief grip, Ralph Wildman; chief prop, John Sherwood.

Cast: Bruce Cabot, Betty Furness, Florence Lake, Eric Linden, John Darrow, Frank Albertson, Margaret Seddon.

• • • • •

**"THE DOCTOR."** Producer, Pandro Berman; author, Katherine Haviland Taylor; screenplay by Lester Cohen; director, John Robertson; assistant director, Charles Kerr; first cameraman, Jack McKenzie; operative cameraman, Russ Metty; assistant, Bill Clothier; stills, Gaston Longet; recording engineer, D. A. Cutler; assistants, S. James Thornburn and Gilbert Brown; film editor, Arthur Roberts; assistant, Joe Noriega; art directors, Van Nest Polglase and Al D'Agostino; chief electrician, S. H. Barton; chief grip, Sam Redding; chief prop, George McGonigle.

Cast: Lionel Barrymore, Dorothy Jordan, Joel McCrea, May Robson, Frances Dee, Buster Phelps, David Landau.

• • • • •

**"RAFTER ROMANCE."** Producer, Kenneth MacGowan; author, John Wells; adaptation by Glenn Tryon and Sam Mintz; screenplay by H. W. Hanemann; director, William Seiter; assistant director, Doran Cox; first cameraman, David Abel; operative cameraman, Joe Biroc; assistant, Charles Bohney; stills, Alex. Kahle; recording engineer, Hugh McDowell; assistants, S. Victor Appel and Harold Stine; film editor, James Morley; assistant, Henry Berman; art director, Van Nest Polglase and John J. Hughes; chief electrician, Frank Uecker; chief grip, Whitey Holcomb; chief prop, Kenny Holmes.

Cast: Ginger Rogers, Norman Foster, George Sidney, Laura Hope Crews, Robert Benchley, June Brewster.

• • • • •

**"FOG BOUND."** Producer, David Lewis; author, Ruth Rose; director, Ernest Schoedsack; assistant director, Ivan Thomas; first cameraman, Henry Gerrard; operative cameraman, Robert De Grasse; assistant, George Diskant; stills, Ollie Sigurdson; recording engineer, Hal Bumbaugh; assistants, Jean Speak and L. C. Carroll; film editor, Ted Cheesman; assistant, Fred McGuire; art directors, Van Nest Polglase and Al Herman; chief electrician, Guy Gillman; chief grip, Tom Clement; chief prop, William Carr.

Cast: Robert Armstrong, Roland Young, Laura Hope Crews, Phyllis Barry, Beryl Mercer.

• • • • •

Hal Mohr, veteran ace cinematographer, who has been responsible for the fine photographic effects in many recent Fox pictures. Some of his notable releases are "The First Year," Janet Gaynor; "Tess of the Storm Country," Gaynor; "State Fair," Gaynor; "I Loved You Wednesday," Elissa Landi; "Warrior's Husband," Elissa Landi; "The Devil's in Love," Loretta Young.

## METRO-GOLDWYN-MAYER STUDIOS

John Arnold, Head of Camera Department

**"ANOTHER LANGUAGE."** Author, Rose Franken; screenplay by Herman Mankiewicz; director E. H. Griffith; assistant director, Joe Newman; first cameraman, Ray June; operative cameramen, Lester White and Richard Wade; assistants, Wilbur Bradley and Samuel Cohen; stills, Milton Brown; recording engineer, Charles Wallace, assistant, Gather; film editor, Hugh Wynn; assistant, Ernest Leadlay; art director, Fred Hope; chief electrician, Lou Roberts; chief grip, Phil Emery; chief prop, Bob McCrillas.

Cast: Helen Hayes, Robert Montgomery, Louise Closser Hale, Henry Travers, Irene Cattell, Margaret Hamilton, Hal K. Dawson.

• • • • •

**"TUGBOAT ANNIE."** Producer, Harry Rapf. Author, Norman Reilly Raine; screenplay by Zelda Sears and Eve Green; director, Mervyn Leroy; assistant director, Al. Shenberg; first cameraman, Gregg Toland; operative cameraman, Bert Shipman; assistants, Charles Straumer and Harry Parkins; stills, James Manatt; recording engineer, Ralph Shugart; assistant, Lester Ebert; film editor, Blanche Sewell; assistant, Jack Rogers; art director, Merrill Pye; chief electrician, Paul Keeler; chief grip, Ralph Hoag; chief prop, Harry Edwards.

Cast: Marie Dressler, Wallace Beery, Robert Young, Maureen O'Sullivan, Charles Gyblin, Marilyn Haris.

• • • • •

## UNIVERSAL STUDIOS

F. S. Campbell, Head of Camera Department

**"SECRETS OF THE BLUE ROOM."** Producer, Henry Henigson; screenplay by William Hulbert; director, Kurt Neumann; assistant director, Jay Marchant; first cameraman, Charles Stumar; operative cameraman, King Gray; assistant, William Dodds; stills, Bert Six; recording engineer, Jesse Moreland; assistant, Bill Richards; film editor, Phil Cohn; art director, Stanley Fleisher; chief electrician, Tommy Valdez; chief grip, Fred Parkinson; chief prop, Harry Grumston.

Cast: Gloria Stuart, Paul Lukas, Onslow Stevens, William Janney, Lionel Atwill, Robert Barrat, Elizabeth Patterson, Russel Hopton, Edward Arnold.

• • • • •

**"TALENT ON PARADE."** Producer, Warren E. Doane; director, James Horne; assistant director, Wilbur Hackney; first cameraman, Len Powers; operative cameraman, Fred Eldredge; assistants, Harold Graham and Walter Williams; stills, Shirley Vance Martin; recording engineer, Lawrence Eicholtz; assistant, Sterling Alsdorf; film editor, Harry Marker; art director, Sammy Hall; chief electrician, Roy Fullerton; chief grip, Bert Whaling; chief prop, Harry Hopkins.

Cast: Lorraine and Digby, Hudson Sisters, Eddie Peabody, Three Cheers, Ted Joyce, Bonzo, Miss Dale.

• • • • •

**"GORDON OF GHOST CITY."** Producer, Henry MacRae; author, Peter B. Kyne; screenplay by Ella O'Neil; director, Ray Taylor; assistant director, Norman Lacey; first cameramen, John Hickson and William Sickner; assistants, J. D. Weiler, Carl Meister and Charles Crane; stills, Harry Osborne; recording engineer, Chuck Carrol; assistant, Thomas Ashton; film editor, Ed. Todd; assistant, Frank Gross; art director, Tom O'Neill; chief electrician, Thomas Valdez; chief grip, Roland Smith; chief prop, Daniel Fish.

Cast: Buck Jones, Madge Bellamy, William Desmond and Frances Ford.

• • • • •

**"ONLY YESTERDAY."** Producer, E. M. Asher; author, Fred erick Lewis Allen; dialogue, Arthur Richman and William; director, John M. Stahl; assistant director, Scott Beal; first cameraman, Merritt Gerstad; operative cameraman, Allyn Jones; assistant, Paul Hill; stills, Mickey Marigold; recording engineer, Joseph P. Lapis; assistant, Jack Rixey; film editor, M. Carruth; assistant, Harold Palmer; art director, Danny Hall; chief electrician, Warren Munroe; chief grip, Barney Summers; chief prop, Ernie Smith.

Cast: Margaret Sullivan, John Boles, Crawford Kent, Franklin Pangborn, Betty Blythe, Billie Burke, Noel Frances, Joyce Compton, Gay Scabrook, Edna Mae Oliver, Benita Hume, Robert McWade, Barry Norton, Ruth Clifford, Mabel Marden, Grady Sutton—and others of equal prominence to be cast later.



# The Power Behind Production

## COLUMBIA PICTURES CORPORATION

### Emil Oster, Head of Camera Department

"BRIEF MOMENT." Producer, Harry Cohn; author, S. H. Berhman; screenplay by Brian Marlow; director, David Burton; assistant director, Wilbur McGaugh; first cameraman, Teddy Tetzlaff; operative cameraman, Henry Freulich; assistants, Jack Anderson and Al Keller; stills, L. A. Shafer; recording engineer, George Cooper; assistant, Earl Snyder; film editor, Gene Harlick; assistant, Mel Thornton; art director, Steve Gooson; chief electrician, Homer Planett; chief grip, Eddie Blazdell; chief prop, Jack Wren.

Cast: Carole Lombard, Gene Raymond, Donald Cook, Jamison Thomas, Monroe Owsley, Holloway Hobbs.

## PARAMOUNT STUDIOS

### Virgil Miller, Head of Camera Department

"MIDNIGHT CLUB." Producer, Bayard Veiller; author, Phillips Oppenheim; screenplay by Leslie Charteris and Seton I. Miller; directors, George Somnes and Al. Hall; assistant director, Eric Locke; first cameraman, Theodore Sparkuhl; operative cameraman, Frank Titus; assistant, Francis Burgess; stills, Roy Clark and Earl Crowley; special effects, Gordon Jennings; recording engineer, P. G. Wisdom; film editor, Eda Warren; chief electrician, Pat Drew; chief grip, Bill Austin; chief prop, Roy Krenger.

Cast: Clive Brook, George Raft, Helen Vinson, Alan Mowbray, Ferdinand Gottschalk, Alison Skipworth, Sir Guy Standing.

"MAMMA LOVES PAPA." Producer, Douglas MacLean; authors, Keene Thompson and Douglas MacLean; screenplay by Nunnally Johnson and Arthur Kober; director, Norman McLeod; assistant directors, Sid Street and Sidney Brod; first cameraman, Gilbert Warrenton; operative cameraman, Ernest Laszlo; assistant, James King; stills, Mack Elliott; special effects, Gordon Jennings; transparency process, Farciot Edouard; recording engineer, Jack Goodrich; film editor, Richard Currier; chief electrician, "Sailor" Holton; chief grip, Jack Critchley; chief prop, Al Swindell.

Cast: Charlie Ruggles, Mary Boland, Lilyan Tashman, Walter Catlett, Ruth Warren, George Barbier, Tom McGuire, Morgan Wallace, Andre Beranger.

"THREE CORNERED MOON." Producer, B. P. Schulberg; author, Gertrude Tonkogy; screenplay by S. K. Lauren and Ray Harris; director, Elliott Nugent; assistant director, Harold Swartz; first cameraman, Leon Shamroy; operative cameraman, Fred Mayer; assistant, Milton Bridenbecker; stills, Earl Crowley; special effects, Gordon Jennings; transparency process, Farciot Edouard; recording engineer, Earl Hayman; film editor, Jane Loring; chief electrician, Karl Gotham; chief grip, V. Bratton; chief prop, Fritz Collings.

Cast: Claudette Colbert, Mary Boland, Wallace Ford, Richard Arlen, Tom Brown, William Bakewell, Hardie Albright, Joan Marsh.

"THIS DAY AND AGE." Author, Bartlett Cormack; director, Cecil B. De Mille; assistant director, Ray Burns; first cameraman, Peverell Marley; operative cameramen, John Hallenberger, Fred Westberg and William Mellor; assistants, George Bourne, Arthur Lane and Guy Roe; stills, Gordon Head; special effect, Gordon Jennings; transparency process, Farciot Edouard; recording engineer, Harry Lindgren; film editor, Anne Bauchens; chief electrician, Jimmie Simes; chief grip, Andy Durckes; chief prop, Joe Youngerman.

Cast: Charles Bickford, Richard Cromwell, Judith Allen, Harry Green, Eddie Nugent, Ben Alexander, Lester Arnold, George Barbier.

"ONE SUNDAY AFTERNOON." Producer, Louis D. Lighton; author, James Hagan; screenplay by Grover Jones and William Slavens McNutt; director, Stephen Roberts; assistant directors, Voshell and Matthews; first cameramen, Victor Milner and Karl Struss; operative cameramen, William Mellor, Clifford Blackstone and George Clemens; assistants, Guy Roe, E. F. Adams and Fleet Southcott; stills, William Walling, Jr.; special effects, Gordon Jennings; transparency process, Farciot Edouard; recording engineer, Harry Mills and Harold Lewis; film editor, Ellsworth Hoagland; chief electricians, Karl Gotham and Howard Kelley; chief grip, Wade Carley; chief prop, Lou Asher.

Cast: Gary Cooper, Fay Wray, Frances Fuller, Neil Hamilton, Roscoe Karns, Sam Hardy, Anne Darwell.

## MAYFAIR PRODUCTIONS

"The Riot Squad." Producer, Harry Webb; author, Jack Natterford; director, Harry Webb; assistant, George Curtner; first cameraman, Roy Overbaugh; assistant, H. C. Ramsey; stills, John Jenkins; recording engineer, Tom Lambert; assistants, M. Leon and J. C. Landrick; film editor, Fred Baine; art director, Dave Thompson; chief electrician, Pat Patterson; chief grip, Bill Smith; chief prop, William Billings.

Cast: Madge Bellamy, Pat O'Malley, Addison Richards, Jimmy Favin.

"A Bedtime Story." Producer, Benjamin Glazer; author, Ray Horniman; screenplay, Waldemar Young and Nunnally Johnson; director, Norman Taurog; assistants, Sidney Street and William Kaplan; first cameraman, Charles Lang; operative cameraman, Robert Pittack; assistant, Clifford Shipper; stills, Mac Elliott; recording engineer, Jean Merritt; film editor, LeRoy Stone; art director, Hans Dreier; chief electrician, James Feims; chief grip, Ray Watson; chief prop, Goldsmith.

Cast: Maurice Chevalier, Edward Horton, Helen Twelvetrees and Adrienne Ames.

This odd looking contrivance plays a vital part in the trick photographic process for motion picture production. The illustration shows Vernon Walker, who is in charge of the special effects department at the RKO Studio, standing beside the first portable projection blimp in use. Mr. Walker is the designer of this ingenious device which permits sound recording on sets where projection backgrounds are used. It is a self contained unit, permitting quick set-ups, is portable, sound proof, fire proof, with the added convenience of the operator on the outside and not locked up in a booth.



## WARNER BROS. FIRST NATIONAL STUDIOS

### Charles Glouner, Head of Camera Department

"WILD BOYS OF THE ROAD." Author, Dan O'Hearn; screenplay by Earl Baldwin; director, William Wellman; assistant director, D. Zemmer; first cameraman, Arthur Todd; operative cameraman, William Schurr; assistant, Vernon Larson; stills, Mac Julian; recording engineer, Robert Lee; film editor, Thomas Pratt; art director, A. Hartley; chief electrician, Claude Hutchinson; chief grip, Charles Davis; chief prop, Scotty Moore.

Cast: Frank Darrow, Ed. Phillips, Helen Mack.

"FOOTLIGHT PARADE." Authors and screenplay by Manuel Seff and Jane Seymour; director, Lloyd Bacon; assistant director, G. Hollingshead; first cameraman, George Barnes; operative cameraman, Warren Lynch; assistant, Jack Kaufman; stills, Scotty Welbourne; recording engineer, Olive Garretson; film editor, George Amy; art directors, Okey and Grot; chief electrician, Leo Green; chief grip, Jerry Barnhouse; chief prop, Herbert Plems.

Cast: J. Cagney, Joan Blondell, Ruby Keeler, Guy Kilbur.

"BUREAU OF MISSING PERSONS." Author and screenplay by Robert Presnell; director, Del Ruth; assistant director, Chuck Hanson; first cameraman, Barney McGill; operative cameraman, Ken Green; assistant, W. Whitley; stills, Homer Van Pelt; recording engineer, Dolph Thomas; film editor, Jim Gibbons; art director, R. Haas; chief electrician, Ray Kennedy; chief grip, Owen Crompton; chief prop, Emerson.

Cast: Pat O'Brien, Lew Stone, Ruth Donnelly, Bette Davis.

"RED MEAT." Author, David Karsner; screenplay by Charles Kenyon and Sidney Sutherland; director, Al. Green; assistant, Frank Shaw; first cameraman, James Van Trees; operative cameraman, L. Jennings; assistant, J. Van Trees, Jr.; stills, John Ellis; recording engineer, Charles Althouse; film editor, Bert Levy; art director, Bob Haas; chief electrician, George Satterfield; chief grip, J. H. Carter; chief prop, Pat Patterson.

Cast: Ed. Robinson, Genevieve Tobin.

## ANGELUS PRODUCTIONS

"Worthy Deceiver." Producer, George W. Weeks; author and director, Reginald Denny; first cameraman, J. S. Brown, Jr.; assistant, Walter Haas; stills, Carl Day; recording engineer, Charles S. Franklin; assistants, Tom Lambert and Leon M. Leon; film editor, Byron Robinson; art director, Paul Palmentola; chief electrician, Jack Wallace; chief grip, Henry Horning; chief prop, Harry Grundstrum.

Cast: Reginald Denny, Claudia Dell, Alden Gay, Bert Roach, Cyril Chadwick, Phil Tead, Rhea Mitchell.

"Double Harness." Associate producer, Kenneth MacGowan; author, Edward Poore Montgomery; screenplay, Jane Murfin; director, John Cromwell; assistant, Doran Cox; first cameraman, Roy Hunt; operative cameraman, Eddie Pyle; assistant, James Daly; stills, John Miehle and Ollie Sigurdson; recording engineer, George Ellis; assistants, E. J. Harman and J. G. Stewart; film editor, George Nicholls, Jr.; assistant, Tom Scott; art directors, Van Nest Polglase and Charles Kirk; chief electrician, James Almond; chief grip, Jimmy Kirley; chief prop, Kennie Holmes.

Cast: Ann Harding, William Powell, Henry Stephenson, George Meeker, Lucille Browne.

"The Deluge." Producer, Kelly-Bischoff-Saal; author, S. Fowler Wright; screenplay, John F. Goodrich and Warren B. Duff; director, Felix Feist, Jr.; assistant director, Eric Stacy; first cameramen, Robert Brodine and Bill Williams; operative cameraman, Harry Davis; assistants, Bert Eason, Johnny Eckard and Carl Guthrie; stills, Roman Freulick; recording engineers, Hans Weeren and Whitey Jowett; assistants, Alf Burton, Martin Jackson and Gilbert Pollack; film editors, Rose Loewinger and Martin Cohn; assistant, Stanley Kolbert; art director, Ralph DeLacy; chief electricians, Al. Cahen and Don Donaldson; chief grip, Robert Murphy; chief prop, Charles Henley.



# Shooting the Sapphire Window

By SHIRLEY VANCE MARTIN

This picture of the "Sapphire" window in a Presbyterian Church on Lake Avenue in Pasadena was taken under such peculiar difficulties that the elimination of them might be of some slight interest to those of our still photographers who do commercial work on the side



to augment the—at present—attenuated salaries from moving picture work.

The window of marvelous beauty and fineness of detail was copied from the Rose window in the Cathedral at Rheims and contains, it is said, more than forty shades of blue. The first was merely a problem in the judgment of filters for correct rendering of colors. The

distance from the window to any possible level set up was perhaps 75 or 80 feet—too great for any good-sized picture. Use of the back combination alone of a Goerz 12-inch drew the image sharply up, overcoming this routine problem. This necessitated long exposure, but very careful timing to avoid halation from the lighter colored portions of the design.

The chief difficulty, however, to overcome in order to get a perfect photograph lay in the fact that directly in line with the center of the window was an electrolier of fifteen or twenty lights and five or more feet in diameter, suspended by a heavy chain from the vaulted ceiling of the transept. Etching out such an amount of detail without ruining the design of the window was obviously an impossibility and for a short while your photographer was stumped, slap up against a stone wall, or rather, a stained glass window. Then he recollected a lesson taught him years ago by an old commercial photographer whose schooling was an education never forgotten.

One day there appeared in this (Mr. Copelin's) studio a representative of a large Eastern china and glass manufacturing concern.

"Mr. Copelin," said he, "teach me how to get rid of reflections in pictures of show cases full of objects."

"That," said Mr. Copelin with becoming gravity, "is a secret process and will cost you just five hundred dollars."

"Done," said Mr. Easterner, and forthwith wrote a check for the amount.

He was then led to the operating room where a showcase full of jewelry was being photographed. All the glass had simply been removed and there were no reflections.

So-o-o-o, as Ed Wynn says, your photographer had to remove the chandelier—but how? It could not be entirely taken out as was the glass in Mr. Copelin's showcase, but suspended by a chain, it could be moved, so enlisting the aid of a couple of workmen he had a light line thrown over a branch of the big fixture and, just before the exposure was started, had it swung pendulum-wise in as large an arc as possible during the required four or five minutes of exposure. And—no sign of an image of either chandelier or supporting chain appeared in the developed negative. (Look at the illustration and see for yourself.)

## QUESTIONS AND ANSWERS

(Continued from Page 23)

purpose being to create the illusion of one scene passing off the screen while the next scene follows it almost simultaneously. They are made in different styles—horizontal, vertical and oblique.

Question: How is fog made in the movies?

Answer: In the past smoke, ammonia and other chemicals were used, but at present vaporized mineral oil (Nujol) sprayed by an atomizer and blown through the air by large propellers does the work. Sometimes fog filters are used in conjunction in photographing through dark green scrim placed in front of the camera.

Question: What is the usual life of 16 M.M. positive prints?

Answer: The life of a positive print depends upon the care with which it is handled during projection and storing. The manufacturer has placed on the market approved humidifier containers that prevent film shrinkage.

Question: Which method is correct for cutting a picture? Should I start with the negative?

Answer: No. Professionally speaking, a print is made from all negatives exposed. Cut and edit the print, viewing the film from time to time on the screen, eliminating and shortening scenes or adding necessary close-ups or other sequences as desired. When this is done to your

satisfaction splice in the titles. If more than one print is desired cut the negative by matching it with the positive you have just edited.

Question: Why is it that the film cement used in the theatres is not practical on 16 M.M.?

Answer: 16 M.M. has an acetate base and thus requires a different solution in the chemicals to cause softening and the vulcanizing of the spliced parts. It is best to use especially prepared fire proof cements which may be purchased at any Bell & Howell and Kodascope Eastman Kodak dealers.

Question: I have a large quantity of 16 M.M. film stored in my home. Is there any danger of fire?

Answer: No. 16 M.M. film is of course slightly combustible, but it is no more so than the paper upon which ordinary kodak prints are made.

Question: My pictures of moving automobiles and galloping horses almost always come out blurred. Why is that?

Answer: Probably it is because you are shooting them from the side and too near. The long period of exposure which may be 1/30 second causes this when the image moves across the film. Shoot from a different angle, thus making the moving subject come more or less head on into the picture.

Question: Is there a possibility of selling 16 M.M. film for newsreel use?

(Turn to Next Page)



Answer: Yes, on very rare occasions it has been done. Very exceptional shots and "stories" have been purchased. I know of three that have. One of them was the picking up of the ill-fated Italian steamer floundering in an Atlantic fury, wherein Captain Fried displayed such heroic seamanship. The picture was photographed by one of the crew who received \$1600 for it. On another occasion a passenger was fortunate to have his 16 M.M. camera with him when the Sonoma, bound out of Tahiti, for San Francisco, sank in a few hours after the rescue.

A sailor on the Coast Guard Cutter Northland photographed the liberation of a huge whale that became entangled in the submarine cable between Seattle and Alaskan ports. It is on such occasions, the cine amateurs being on the spot when some unexpected and important event breaks that they are able to sell their 16 M.M. films.

Newsreel companies are glad to get the story for an exclusive release. Remember, it is important to shoot ample footage, from all possible angles, get all names and other data that will enable the editors to write captions. Most important—ship the stuff undeveloped with all possible speed, airmail outside handling, and wire the company you are shipping it, how and when.

### INFRA RED FILM

(Continued from Page 2)

Clouds have many fantastic forms; steady your plane, cruise around and find the artistic side of them. Nature paints her pictures up there the same as on Mother Earth and oftentimes you can obtain a beautiful scene so different it is fascinating. When the photographer starts cruising around up there he arrives at positions that are lacking in beauty, but suddenly he goes around the corner, as I express it, and comes upon a beautiful vista like a dream, it is so fantastic and wierd.

Just recently, on a trip to San Diego, in looking for a spot to drop a parachute we came upon a place in the clouds resembling the Grand Canyon. There appeared to be a tremendous gash in the clouds, the center of which was very dark. The sides seemed to be like great clouds rising thousands of feet in the sky. It had the appearance of being worn away by some erosion—all caused by certain atmospheric conditions.

At other times I have seen grotesque figures formed in the clouds. I recall one time seeing a woman's face framed in a beautiful head-dress and as the sunlight fell upon it the face looked exactly like a white cameo against the blue sky.

All of these things are made photographically possible by the use of the proper filter and films. I have brought back to the earth from altitudes far below zero pictures which, when viewed in the warm projection room, looked like scenes from a warm beautiful sky.

Upon the start of this film in the night sequence the question arose as to what color the plane should be painted. After some discussion with Mr. John Arnold and Mr. Ollie Marsh we decided to make a large testing chart. We painted in five different monotone colors, ranging from white to deep dead green and outside of that an aluminum strip. I took this up on the top of a building and photographed against the sky and landscape with seven or eight different filters on super-panchromatic and also on the Infra Red. This test was a very fine thing because we found there was one color it was impossible to change with any filter we used—that was the aluminum strip. From the lightest filters to the deepest Infra Red filter the aluminum strip was always visible, so we eliminated the possibility of losing our ship at any time in shadows or in blue sky.

From that time it was only a matter of determining

the exposure and picking the shots and the locations. I was greatly pleased when the company placed on me the responsibility as the cameraman to choose locations for a big production like "Night Flight," also it was very fine that they would send us by plane. The great saving in time was wonderful. We left Hollywood about noon and were comfortably settled in the hotel at Salt Lake City that evening. The next day by noon we were sitting in the airport at Denver, in the afternoon photographing a couple of thousand of feet of film over the Continental Divide and Long's Peak; the next day 2,000 or 3,000 feet more and on the fourth day we had left Denver and were back at Los Angeles at five o'clock that evening.

This article would not be complete without acknowledging my obligation to the scientists and producers of the wonderful motion picture film we have today and the marvelous lenses. Then too, a lot of credit goes to the pilots who fly ships for motion picture work, for they go through as much if not more than the cameraman. Some of them are mighty clever and oftentimes are able to keep the cameraman's lens on the objective plane in almost any kind of a stunt.

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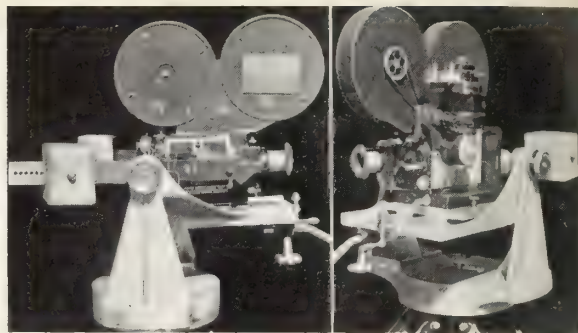


# Panning and Tilting Off and On Miniatures

During the past year in many of the Paramount pictures there has been what obviously seemed to be miniature foreground and hanging miniatures as part of the sets. In viewing these particular scenes many camera experts have been mystified because the camera panned and tilted without any apparent effect on what was supposed to be miniatures.

It is a well known fact that, when setting up for a scene where miniatures are used as an integral part of the set, it has been necessary to securely tie the camera down and great pains have been taken to insure that the camera be not moved, because the slightest movement of the camera would reveal where the miniature left off and the set started.

This has all been done away with on the Paramount lot due to the ingenious invention herewith illustrated and which has been patented by Gordon Jennings, head of the special effects department. Jennings has been a fixture at the Paramount Studios for ever eight years and has been responsible for the many ingenious devices and improvements in production values giving special effect scenes.



Left—Mitchell camera mounted on new Jennings' tripod—note weights which counterbalance weight of camera.

Right—Rear view of tripod head showing adjustments which permit the use of any focal length of lens—pan handle at left.

This exceptionally flexible method which permits the panning and tilting of a camera when lined up on miniature sets is accomplished by mounting the camera on a specially constructed tripod head. Provision is also made whereby any focal length lens may be used by a simple adjustment which brings the lens axis to the swivel point of the tripod head. The effect on the screen is quite startling and naturally lends great production value to the scenes made in that manner. Among the many productions in which this type of shot was used are "Farewell to Arms," "Trouble in Paradise," "Love Me Tonight," "International House," "Song of Songs."

## INFRA RED FILM

(Continued from Page 41)

director for having this type of background, as such a thing was not supposed to be in the scene at all. I explained that it was purely an accident, but a natural thing for the film and filter. I said: "Well, I suppose some morning I will be out shooting and at night when I come in and run the film I'll see on the screen San Francisco or Mount Shasta—or some other object a couple of hundred miles away."

It is every interesting to follow up an experiment of this kind and to know that a filter and a film see far more than does the eye and has infinitely greater penetrating quality through fog and mist.

We also noticed some very peculiar effects obtained with this film through the fact that it had power to penetrate into almost solid cloud—as far into the clouds as sunlight traveled the film was able to see. A plane we were photographing disappeared entirely to the eye and when the picture was thrown on the screen the ship was visible at almost all times. If the clouds were photographed in an extreme back light and there were not many solids or, in other words, shadows, (and after all photography is simply lights and shadows) the clouds became almost transparent. Therefore, it was necessary that we shoot very early in the morning and late in the afternoon so that the sunlight might strike on the sides of the clouds instead of directly on top of them; also the rays of the sun were weaker. Wherever there was a shadow, there really was one, as black as velvet and wherever there was a high-light it really was a high-light and because of this fact the moonlight effect was obtained.

With our regular present day super panchromatic I tried many ways to obtain this same effect. When one comes to consider, a cloud is nothing more than a mist of minute particles of water suspended in air and, after all, is transparent and reflects a tremendous amount of light.

Of course photography from an artistic standpoint rests entirely with the operator of a camera and one of the important things is composition, therefore, the light arrangement must be right before it becomes artistic. This seems to be quite a broad statement to make about going above the clouds, but lighting arrangement may be obtained there—and it is being done.

## TELEVISION

(Continued from Page 18)

cameramen will undoubtedly be television engineers.

The most advanced part of the television art resides in the functioning of the photo-electric cell and its accompanying amplifier. Although the photo-electric cell has been improved many thousandfold since its original conception, it still gives a very feeble electrical output for the light intensities common in photography. The amplifier that is associated directly with it must handle these minute electrical pulses with fidelity (which may be only one-billionth of the amount of electricity flowing through the usual electric light) and give an interference free output. For this reason then, this piece of equipment must be under the supervision of an advance television engineer. The present skill of the cameraman in photography will not enter, and, therefore, his ken will correctly remain that of taking motion pictures for theatrical and television purposes.

17. Will news television record the action and sound on film as well as direct broadcast to homes so that performance can be repeated in theatres for those who miss direct reception?

Ans. It can. At first, however, it will undoubtedly be best to have regular motion picture cameramen at the scene as well as television cameramen. The television cameraman will scurry hither and yon picking up the best scenes that he can while the event is taking place; while several movie cameras will more adequately cover the occasion and produce a more complete and organized record for film showing over television at a later time, or for theatre presentation.

In conclusion of this interview it is a pleasure to introduce the personnel of Mr. Lubcke's efficient staff of co-workers whose energy, intelligence and devotion to duty, in real pioneer spirit, is heartily acknowledged by their chief. These young gentlemen are J. Glenn Turner, Frank M. Kennedy, Theo. Denton, and Wilbur E. Thorp.

## VAN ENGER WRITES

Charlie Van Enger writes from 71 Princess Gardens, West Acton, W. 3, London, that he has just finished on schedule his first English production, "I Was a Spy." Victor Saville directed; Stephen Dade was operative cameraman. Madeline Carroll played lead.



# 100 YEARS OF PHOTOGRAPHY

Horace Ashton, New York, 644, contributes the following from the Paris edition of the New York Herald, of June 6:

The celebration of the centenary of the death of Nicéphore Niépce, at Chalon-sur-Saône, while it is a tribute to one of the inventors, if not the inventor, of photography, has come as an appropriate reminder of the extraordinary progress which the science of photography and its applications have made in the last 100 years. The name of Niépce had been almost forgotten; to millions who follow photography as a hobby it is practically unknown. Yet, whatever claims are put forward in the name of other inventors, it was Nicéphore Niépce who in 1823 produced the first photograph. He died ten years later in poverty, his fame overshadowed by that of Daguerre with whom he associated in his secret process.

It was from the humble beginning of Niépce's plate coated with Jew's pitch that photography as we know it today took its rise. The hours of exposure, required 100 years ago, before light could leave an impression upon the plate, are now counted in thousandths of a second. Modern plates can catch the path of a bullet through the air, and can even record the passage of atomic particles travelling with speeds approaching that of light itself. The dream of Niépce to replace painting by the action of light on suitably coated plates has nearly been realized.

Besides these and other wonders of everyday photography, the photographic plate has become the sixth sense of the scientific research worker. For it is literally true to say today that what the eye does not see, and can never see, the photographic plate records. By its means the speeds of stars and nebulae hundreds of millions of light years away can be calculated with certainty. The atom has revealed its secrets only through photography. Astronomy, physics and chemistry keep enlarging their horizons by means of the photographic equipment of observatories and laboratories, and modern surgery would be helpless without the X-ray camera. The man who devoted his life and fortune in the dogged pursuit of the discovery which made all these developments possible deserves to be remembered.

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## CHAPLIN

(Continued from Page 8)

atres were stolen and returned to the United States. The earning power of a Chaplin picture was determined only by the life of the negative.

Imitators of Chaplin sprung up everywhere. Two imitators, Billy West and Charlie Amidor, were good but they lacked the delightful Chaplin touch; hence they were relegated to the limbo of imitators. Charlie Amidor, by the way, took the name of Charlie Aplin. However, our Charlie who generally played the slightly drunk reveler in these early pictures, could not be imitated. In his shuffle alone he can get across to the audience, as no one else can, either a "don't give a Damn" or "wistful hobo" characterization.

"The Floor Walker" was his first picture for Mutual. In the cast were Eric Campbell, the heavy, and Edna Purviance, the leading lady. The cameraman on this picture was Rollie Totheroh, who since has become famous as



Cartoon drawn by Rollie Totheroh in memory of "A Dog's Life."

"Charlie's Cameraman." Rollie, as he is affectionately known, has been with Chaplin since March 2, 1916.

The cast for the first Mutual picture remained with the company for the entire twelve pictures that Chaplin made for Mutual. And this cast had to work hard. They worked continuously, almost without rest, until they started making "Easy Street." In an accident in this picture Chaplin cut his nose and was laid up for a month. 'Twas noted the regret of the cast about Charlie's accident was somewhat tempered by the joy of a rest. Chaplin gave the cast and technicians their full salaries along with permission to work for other companies, if they so desired, while his nose was healing.

When Charlie is working he forgets the passing of time. He becomes so enrapt in his work that he often continues through lunch time and his associates hesitate to remind him of his oversight until a less timorous individual piles up enough courage to remind Charlie that "It's way past my lunch time." They respect him and are in awe of his enthusiasm before the camera.

Whether actors and actresses are inexperienced or not, he has a wealth of patience with them. He will often rehearse an actor for hours in some small detail. A scene between Adolph Menjou and Edna Purviance in "The Woman of Paris," was photographed over a hundred times before he was satisfied. He spent hours in rehearsing scenes of himself and Jackie Coogan in "The Kid." His method of handling Jackie Coogan, who had no previous experience before the camera, was praiseworthy. He played with the youngster while Rollie Totheroh "grabbed off" such scenes as were needed.

As a rule Charlie takes four "shots" of each scene and then invariably uses the first taken. And in scenes where he is alone he foregoes rehearsal, but does it using film.

Even though he is patient with his actors and actresses, he has no judgment of the limitations of the mechanical apparatus used. He becomes quite impatient if the lights

or camera are not ready at all times. Often when he is told "the lights are not ready" he replies "shoot anyway." He pays no attention to camera lines or angles, or the placement of lights—that is for someone else to worry over.

Chaplin always dresses his own sets. He "starts cold," as it is known when the set is bare, and calls for what he needs. Imagine him dressing the street sweeper set in "City Lights." Hear him asking the prop man for a street sweeper's brush and clothes, three cigar butts, an ash can, two pretty girls, a street lamp, and two quarts of horse dung. He is said to have arranged the artistic layout of the last named.

Then too, he never writes a scenario, but builds the story and develops the gags as he goes along. If he needs time to think out a gag, the carpenter will be asked to change the windows from the right to the left side of the room. In fact, he used this stunt so often that the carpenter put rollers under the set walls so when asked to change they might be rolled around.

He started to build the Chaplin Studios in Hollywood in 1917, which were completed in January, 1918. It remains today the only privately owned studio in the film capitol. Upon completion of the studio he wired to Alf Reeves, who was still with Karno's Company in England, "Come, have something good for you. Bring Aimie." Aimie, referred to here, is Alf Reeves' wife. From the wire it would seem that Chaplin wanted Reeves to take over the managership of the studio—and Mrs. Reeves to come and manage them both.

The first picture taken at the Chaplin studio was "A Dog's Life," which was followed by "Shoulder Arms." In 1919 he made "Sunnyside" and "A Day's Pleasure." "The Kid" was made in 1920; "The Idle Class" and "Pay Day" in 1921, and in 1922 he made "The Pilgrim." These eight productions were released through the First National Exhibitors Circuit.

On February 5, 1919, he combined with Mary Pickford, Douglas Fairbanks and D. W. Griffith in forming the United Artists Corporation, through which he released "The Woman of Paris" in 1923 (which brought fame to Adolph Menjou); "The Gold Rush" in 1925; "The Circus" in 1928 and his last picture "City Lights" in 1931.

Many readers will be interested in knowing of the different studios where he worked. His first Keystones were made at the old Keystone-Mack Sennett Studio on Allesandro Street, which is now Glendale Boulevard, in Los Angeles. He then made one picture at the Essanay in Chicago, which by the way was photographed by the veteran cameraman, Jackson Rose. After the one Chicago picture he made several at the Essanay in Niles, California. There were a few made at the old Majestic Studio in Boyle Heights, notably of which was "The Woman," and three pictures were made at the old Hal Roach Studio on North Hill, in Los Angeles.

All his Mutual pictures were made at the Climax or the corner of Lillian Way and Romaine in Hollywood. Edna Purviance and Eric Campbell played in all the Mutual pictures. Bud Jamison, Ben Turpin and Ruth Hennessy played in the Essanay pictures. The players in the Keystone pictures were Mabel Normand, Ford Sterling, Mack Swain, Anna May Walthall, who is Henry B. Walthall's sister, and Chester Conklin. Chester Conklin is considered by many to be the best foil Chaplin has had. However, Chaplin favored Eric Campbell.

This brief survey shows Chaplin to have been an active man. His concentration when making a picture excludes everything else. During the production of a picture he becomes what may be termed frantically serious. He arises early and works out the schedule for the day, and

## "ACRES OF DIAMONDS"

Mr. Lee Garmes, one of the pioneer cameramen of the motion picture industry, has recently been induced by Fox Studios to abandon the camera and join the ranks of the directors. This promotion of one of filmdom's most widely known cameramen to be a director is only another evidence of the tendency of producers to recognize the great body of cameramen as a reservoir of talent to supply the directorial field.

If not from this field where shall the future directors come from? The intelligent cameraman working for many years in close association with the great directors in the production of motion pictures has had such training as no other technician in the cinema ever gets. He not only photographs the picture, but he fixes the lighting, passes upon the make-up of the actors, advises with the director on points dramatic as well as points photographic and his daily study of direction, in close proximity to the director himself, equips him in every way to step from the blimp to the megaphone.

This magazine congratulates the producers upon discovering the directorial talents of Mr. Lee Garmes and also felicitates the latter upon the attainment of his ambition to direct.

His successful career is assured and as he marshalls his queue of successive box office attractions the producers are kindly admonished to meditate upon the inexhaustible supply of directorial ability ready to hand in that wonderful body of technical artists commonly called "the cameramen."

In this connection it is not out of place here to give recognition to that neglected and unsung group of men and women known to the industry as "cutters." Editor is a better epithet, but it is true that in order to be a cutter, an operator of this kind must first be an editor. In reality they are FILMGINEERS and, without them, the net loss in picture production would amount to many millions more than if the "cutter" had not been at hand with his consummate skill, not only to cover up blunders, but to transmute with his magic and his keen faculty of judgment weakness into strength and discord into rhythm.

Here also is a fallow field for the recruiting of directors. Mr. Producer, you have these "acres of diamonds" right here in your own house. Of course, you'll do something about it.

then, to keep himself fit, he often runs from his home to the studio—a distance of five miles. Is there another maker of pictures who would do this?

He always dresses his own sets. He always dresses the hair of his leading ladies, because he can not be satisfied with the conventional methods of hairdressers. Often he designs their clothes too, as in "City Lights," when he altered four costumes that he didn't like. He took the dresses apart and re-designed them. On one occasion, he spent three hours giving Mack Swain's beard a trim.

Who knows, perhaps Charlie Chaplin deserves a rest after his great contribution to the screen. Undoubtedly he has worked hard. However, to the public in general, he belongs to them. On the screen he gives them what they want in entertainment and relaxation and when a person does this well, he may not rest.

As Howard Hurd says: "By not making pictures, Charlie Chaplin is beating the public out of that much. He is like a tonic—he is good for people. When I feel picture hungry, a Chaplin just makes things right."

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## TY'S HOLLYWOOD NOTE BOOK

(Continued from Page 30)

Croonin' Bing Crosby is a one man corporation now. He has been incorporated in Delaware as Bing Crosby Ltd. At present, Bing is president and sole owner of all stock. We may look for most anything now. Perhaps, this new Crosby Ltd. will turn out to be a "crooners" trust.

## WE ARE GLAD TO HEAR THAT—

Louis Brock, associate producer at R-K-O, is bringing the Brazilian orchestra here with its bizarre native instruments. That means another picture will come to the screen with a truthful portrayal of customs of another people.

Columbia has never been "in the red," which is credited to the fact that they own no theaters. Their business is making pictures.

Henry King spent weeks with a ballet cast of 150, in "I Loved You Wednesday," for a scene that will last only four minutes on the screen.

Jack Lewis' opinion on censorship. Ask him and what he will tell you in fifteen minutes is worth spending two hours.

If my readers do not like this column, they are urged to send in their own comments, which will be used instead.

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# NEW PAPERS ADDED TO S.M.P.E. ARCHIVES

Following is a list of papers read at the Spring Convention of the S. M. P. E., held in New York City, April 24 to 29, and supplied by O. M. Glunt, chairman of the Papers Committee. After these papers have been printed in the S. M. P. E. Journal any of them may be reprinted in this magazine on request of readers, by special permission of the S. M. P. E.

"National Standardization in America," Dr. P. G. Agnew; "High Power, High Efficiency Incandescent Lamps," E. W. Beggs and M. W. Palmer; "Personality and the Voice," Mrs. I. L. Bradley; "Application of Motion Picture Developments to Other Fields," O. H. Caldwell; "Recording Equipment," Don Canady; "Volume Range in Film Recording," H. C. Silent; "The Morgana Color Process," J. A. Dubray; "Carbon Arc Projection," A. C. Downes; "History of S. M. P. E. Standardization," L. A. Jones; "Photoplay Appreciation in the Nation's Schools," William Lewin; "Cine Kodak Special," Tuttle, Wittel and Stoider; "16 mm. High-Speed Non-Intermittent Camera," F. E. Tuttle.

"Wave Form Analysis of Variable Width Records," Sandvik, Hall and Streiffert; a paper by Terry Ramsaye; "Eye Strain Avoidance," F. H. Richardson; "Eye Fatigue," Peter Snell; "Projection Screens Committee Report," S. K. Wolf; "The Diffraction Effect of Microphone Mountings," W. C. Jones; a paper by M. C. Batzel; "Sound Recording and Reproducing Using 16 mm. Film," J. O. Baker; "Use of Test Film for Projection Equipment," J. O. Baker; "Some Factors in Photographic Sensitivity," S. E. Sheppard; "Recent Developments in Electrolytic Silver Recovery," K. C. D. Hickman; "Audiphone and 'Out of the Silence'," Chas. W. Barrell; "Military Training and Historical Films," F. A. Hoorn, U. S. Signal Corps; a paper by W. W. Wood.

"The Sound Film Program of the U. S. Department of Agriculture," R. Evans; "Parallax—Panaranagram (with demonstration)," Dr. H. E. Ives; "Hill and Dale Recording (with demonstration)," H. A. Frederick; "Methods of Measuring Flutter in Film Propulsion (with demonstration)," T. E. Shea and W. A. MacNair; "Direction Effect in Processing," J. Crabtree; a paper by W. S. Short; "Method of Measuring Photographic Aberration," W. Herriott; "Variable Width Recording," D. D. Foster; "New Automatic Printer," J. A. Dubray; "New AC Projection Lamp," Mr. Ashcraft; "Prismatic Method of Compressing Pictures," Dr. Newcomer; "History of Cartooning," Earl Theisen; "RCA-Victor High Fidelity Film Recording Equipment," Sidney Reed, Jr.

## POWER LEVEL, ETC. (Continued from Page 13)

the amplifier, as gain is governed by the number and types of tubes and the coupling arrangements employed. Although they are associated, they are distinctly different quantities. For example, the gain, which is usually measured at 1000 cycles, in one amplifier may be twenty decibels and the output level +10 decibels; while the gain in another amplifier might be seventy decibels and the output level only +4 decibels. In the first case, the level of the electrical energy applied to the input of the amplifier could not be over -10 decibels if the amplifier was not to be overloaded; and in the second case the input level would have to be kept below -66 decibels. These two factors must be watched carefully in the operation of audio amplifiers.

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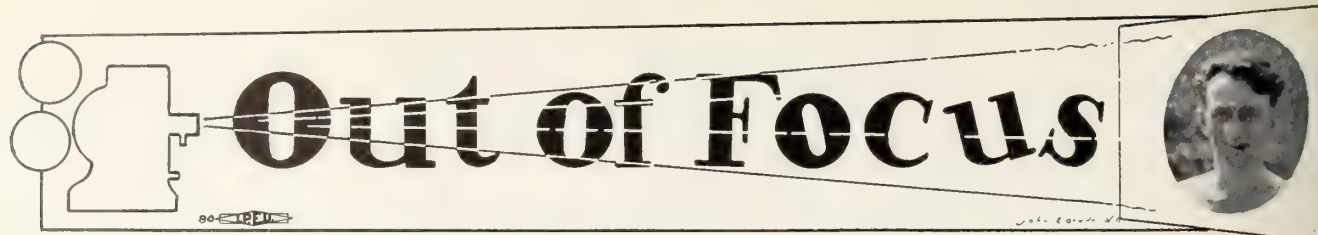
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## How to Become Two Kinds of a Cameraman

By OTTO PHOCUS



The above silhouette was shot from a high hat at high noon and portrays two cameramen. One good and one not so good. You can not tell from the picture, which is which, nor can you tell from the men in person. The only way to settle this is on the screen.

We have had several requests from our reader, asking for information which will enable him to become a cameraman. We are passing this information along to readers of this page, if any, and for reference we refer you to the Guarantee Building and Loan Assassination. Now that we have your attention we will start at the first stage.

This is the time when you have a Brownie Camera and show your friends the marvelous picture you can get with it and explain that you have a friend that has a camera that cost over one hundred dollars and his pictures are not as good as yours. We will skip the next stage where-in you buy the more expensive cameras and come to the time you want to try motion pictures.

It will be necessary to take a few dollars, about thirty-five hundred, and with this sum you can get a pretty fair professional outfit, such as used in the studios. Of course this does not include a crane or dolly, in case you wish to make travelling shots. Take your outfit west of the Rockies and expose a few thousand feet of film at four cents a foot and then take it to any first class laboratory and they will gladly develop it for cash. After this you will know what not to do and when to do it and should apply for a position at one of the larger studios.

It is always a good idea to check up on all your relatives at this stage. Some people do this in order to get their positions, but in the case of the cameraman it is a good thing to know where you will be able to eat if you are not working. If you prefer Western pictures, I would suggest that you practice getting kicked by horses and putting sand in your food. This will help you quite a bit when you are sent on location. Then if you prefer the drama spend some time around the morgue or emergency hospital which will harden you to the point that you will not break down and cry when your star is emoting all over the place. In the event it is comedies, try jumping in

front of trains and finding out how close an automobile can come to you without hitting you.

This should give you a pretty good idea of how simple it is to become a cameraman. The only thing that remains is to make up your mind what kind of a cameraman you want to be. I can tell you, however, that a "not so good cameraman" swears when his scenes are out of focus and a good cameraman uses up his short ends and takes his assistant to lunch. So it is up to you to make your choice.

### DO YOU KNOW.

That Alex Keighly rates a Fellow in the Royal Photographic Society.

That Alvin Wyckoff's career as an actor was ruined when Earl Hines offered him a job as a cameraman at Selig's, in 1906.

That Howard Hurd wrote, produced and acted in a stage show. Yeah! And was stranded too.

That Faxon Dean knits.

That Ray Fernstrom would like to know what filter Gene Cour used to get the results shown in his illustrations on dynamic symmetry.

That (in) The way of the transgressor is Hurd.

That if they pry me loose from my hundred dollars in gold, some one will be stuck for a new plate.

That Ted LaBarba was Bantamweight Champion of the Pacific Coast and fought the main event when the Legion Stadium was opened.

That Henry (Hank) Noel Kohler left a good job in the brick yards in 1906 to go into Selig's Lab.

That Harry Forbes attended the University of Cin. Located at Cincinnati, Ojai-O.

That Tony Gaudio left the Imp Co. in New York in 1911 to come to Hollywood.

That the sale of this magazine on the news stands, in Los Angeles has increased over 200% in the last two months. Maybe it is the new set up and covers.

That I can prove I was not the way you think I was after looking at my "poortrait" in the last issue. It was not the heat, but the humility.

That we ought to get together and present Jimmie Palmer with another idea. How about a basket picnic? I've got a basket.

That this department will be closed all day July 4th. Legal beer holiday.

That the G. in Charlie Clark's name is for Gallo-way.

That Norman Devol attended the University of California.

That we received a subscription from England and the subscriber wanted to know if we had a button or badge that he could wear. There's an idea for somebody.

### PAY DAY

Warner Brothers have produced a picture entitled, "I Loved You Wednesday." So did I when I worked for Paramount.

### TOO BAD DEPARTMENT

We received a note from one of our cameramen stating that three days after his name appeared in "On the Firing Line" he was fired. So what?

# *Down to the sea in* **LAMP BULBS!**



● In their unceasing quest for lamp improvements, General Electric's scientists tracked down the cause of that light-reducing, black deposit on the inside of lamp bulbs. The tungsten filament, like heated water, was evaporating and then condensing on the glass. But how to check it?

The evaporation of water can be checked by gas pressure: Anyone who has ever driven a car in the mountains knows that water boils more readily there than at sea level where the pressure of the atmospheric gases is greater. Yet experiments tended to show that heated metals in the presence of gas, united with the gas and disintegrated. Undeterred, General Electric's fact-hunters filled some lamps with *chemically inert gas*.

The first test showed no improvement. They tried it again . . . and again . . . and they found that the rate of filament evaporation *did* decrease! Through gas pressure, they could make lamp filaments "come down to the sea from the mountains."

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# INTERNATIONAL PHOTOGRAPHER

HOLLYWOOD

TH YEAR

AUGUST 1933

VOL. 5  
NO. 7



CENTS  
A COPY

Scene from "The Bowery" First Production of Darryl Zanuck,  
Twentieth Century Pictures, Inc.

PHOTOGRAPH  
BY KENNETH ALEXANDER

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# INTERNATIONAL PHOTOGRAPHER

MOTION PICTURE ARTS AND CRAFTS

Vol. 5 HOLLYWOOD, CALIFORNIA, AUGUST, 1933 No. 7

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A Monthly Publication Dedicated to the Advancement of Cinematography in All  
Its Branches; Professional and Amateur; Photography; Laboratory and Processing,  
Film Editing, Sound Recording, Projection, Pictorialists.

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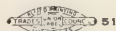
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## Coming in September

Herford Tynes Cowling will pause long enough in his trip "Around the World" to take our readers "Around the Fair"—a camera tour of inspection through "The Century of Progress."

Mr. Karl A. Barleben, Jr., miniature camera expert, will be with us again in a special article entitled "Random Notes on the Elements of Miniature Camera Photography," with illustrations by himself.

Emery Huse and Ned Van Buren will be in with Part III of their fine and scholarly series on "Light Filters from the Cinematographer's Viewpoint." No cameraman with any pretensions to virtuosity can afford to miss these articles.

Mr. Earl Theisen, Honorary Curator of Motion Pictures for the Los Angeles Museum, will offer as a high light of his series "The Story of the Newsreels."

Mr. Charles Felstead will make his bow as Associate Editor in our September issue with his first of twelve articles on the general subject of "SOUND RECORDING. The outline of the first article will be substantially as follows:

1. The field of sound recording viewed as a whole.
2. The general form of a sound recording channel.
3. The chief difference in the recording systems is in the recording devices.
  - (a) The Rheolight and flickering lamps
  - (b) The rocking mirror (Variable area)
  - (c) The light valve (variable density)
4. The motor control system.

## OUR FRONT COVER FOR AUGUST

From "The Bowery," first production of Darryl Zanuck for Twentieth Century Pictures, is taken the still which forms the front cover of our magazine this issue.

This remarkable picture was completed in only twenty days after Mr. Zanuck took the helm of the new company operating at United Artist Studios.

On the still, left to right: Bert Glennon, first cinematographer; Russ Metty, operative cameraman; James Gleason, writer; George Raft, heavy; Raoul Walsh, director. Wallace Beery and Jackie Cooper, featured, were at lunch when the still was shot. Still man, Kenneth Alexander.

See "On the Firing Line," this issue; Col. 2, Page 35.







Mr. Perry uses Tantor, the elephant, for a parallel.

It was in October, 1932, that Mr. Tom White, of the Continental Film Company, left Los Angeles for the island of Ceylon to make an animal picture, "Dus-Tu-Ran," in natural colors.

With Mr. White, who directed the picture, went Karl Heicke, business manager, and Capt. Colin Gordon, big game hunter, linguist and engineer in the service of the British Government in India, Ceylon and Burma, as contact man.

The writer accompanied the expedition as chief cinematographer in color, and we selected Guy Wilky, pioneer cameraman, to make the black and white negative.

#### At Colombo

After making a leisurely trip to the Orient and visiting Japan, China and the Straights Settlements, we arrived at Colombo, capital and largest seaport of Ceylon, and were put up at the Planters Club in Ratnapura as guests of Capt. Gordon, and in that pleasant place we sojourned while Gordon and White went out to choose a location and assemble the animals necessary for the picture.

While here we built development tanks and drying drums to take into the jungles and at the end of two weeks Capt. Gordon and Mr. White had collected leopards, wild boars, four large pythons, four cobras, honey bears, monkeys, mongoose, black bats with wingspread of several feet, gigantic lizards four to six feet long, jackals, many birds of gorgeous plumage, elephants and



The Crown Prince of Solo and ex-Governor Roosevelt of the Philippines.

# PAUL PERRY RETURNS FROM THE ORIENT TELLS HIS OWN STORY

many wild denizens of the green hell that is called a jungle.

#### The Location

The location selected by Capt. Gordon was in the south of Ceylon—the estate of the native chief and an old friend of the captain—a tract of many thousands of acres upon which there was a house equipped with all modern conveniences and a retinue of servants, among whom was a cook able to concoct the most delicious culinary tid-bits.

In this delightful place we constructed our sets, and it may not be out of place to add right here that Wilky and the writer had a great workout following the ox-carts that carried our photographic equipment from the railroad to this location, Mahawaletenna by name.

We had hundreds of Ceylonese working for us as actors, carpenters, grips, animal tenders, camera hustlers, etc., and there never was a more willing set of native workmen any place.

The most annoying thing on the entire trip was not wild beasts, but the unspeakable leaches and wood ticks!



Mr. Perry in the palace of the Sultan of Solo.

Ye gods, how they did pester us! We all wore shorts as being the most convenient jungle attire, and every day when we came home from work our legs would be red from the blood made by these terrible pests.

#### Cobra and Mongoose

Our recreation was the noble game of Rummy and, there being no other white people nearer than fifty miles, we had to play among ourselves, and there were spirited times compared to which a fight between a cobra and a mongoose was as tame as a gingerbread picnic.

On Christmas we staged one of these fights and the mongoose won as usual, while on New Year's eve, just at midnight, a pack of jackals came down from the jungle to call upon their kinfolk we had in captivity, and they certainly did howl the old year out and the New Year in.

We made many scenes depicting the native struggle for existence, but the most terrible strain upon our sensibilities was the self inflicted torture of the natives, who, without evidence of suffering, pinned their lips together with skewers, pushed nails and hooks through their cheeks and tongues, and seemed to rejoice in mutilation; they never shed one drop of blood.

#### En Route Home

When our picture was finished and we had packed and shipped our film, my associates returned to Holly-



wood, while I sailed over to Siam to make some more pictures. There, in Bangkok, I had the pleasure of meeting one Luang Kola Karn Chen Chite, who for years has been official photographer for the Siam State Railway, and who has a very modern studio producing Chinese and Siamese sound pictures.

This man is a genius, and in consideration of the fact that he has never visited English or American studios, he has accomplished wonders with the modern sound cameras, lights and other studio equipment.

At Bangkok I had the pleasure to meet the representatives of the Srikrung Press, who entertained me with royal hospitality, first at a banquet given by that Siamese newspaper, Srikrung Press, and later at a dinner sponsored by a group of Siamese government officials.

#### Siam Dinners

In Siam official dinners are no joke. You eat and then you eat some more and—then you keep on eating until at least three hours are past—never less. An American is able to stand the gaff because there are no speeches to ruin his appetite.

The Siamese toast you to death in good liquor, but they are too polite to make speeches except when they visit America. (Note: After the dinner the editor and proprietor of the Srikrung Press honored Mr. Perry by



In Shanghai—Left to right: Bert Wheeler, Coolie, Mr. Perry, Bob Miller, Robert Woolsey (reading our magazine).

making him honorary editor and American correspondent of their paper.)

Siam is one of the most interesting countries in the world. It is colorful, picturesque, friendly, progressive and at peace with the world. It has literally thousands of temples, many of them gorgeously beautiful, and everybody of consequence seems to be interested in photography. Jack Smith, who spent some years in Siam, said that the reigning prince during his stay had fourteen different kinds of cameras, from a 35 m.m. movie camera to a pocket kodak.

#### Bennett and Roos

After making some pictures of several of the most interesting temples and grabbing off some interesting shots of daily life in the metropolis, I left this lovely country for hot old Singapore, where I was rejoiced to meet Chester Bennett and the irrepressible Len Roos, both cinematographic globe trotters who know the Straights Settlements as well as they know Hollywood Boulevard.

They were out on an expedition for Universal and I joined them for a jaunt to the Dutch East Indies, whither they were bound to the island of Java to film one of the most brilliant social events in the history of that part of the earth.

#### The Sultan of Solo

The event was the occasion of the marriage of four daughters of the Sultan of Solo, probably the most in-

fluent native ruler in the East Indies and a particular pet of the Dutch.

This Sultan of Solo is not to be identified with the Sultan of Sulu, your Uncle Sam's protege in the Philippines, but he is far richer and more powerful, with forty-five wives (working at the job), several hundred lady



Mr. Perry and Mr. White with their pet monkeys.

friends who live in his harem, scores of sons and daughters and no end of grandchildren and other domestic animals.

His immediate family embraces upwards of five thousand people, and they all live in gorgeous palaces enclosed within a high wall not unlike an old feudal castle, and the neighbors do say that the good Sultan has literally scores of fine American automobiles in his garages, to say nothing of radios, electric lights and all other imaginable conveniences throughout his demesnes, including American plumbing.

#### Pageantry

But—that's nothing—I counted forty-seven orchestras of the Sultan's very own stationed along the roadside en route to the palaces from the Dutch Governor's residence—the route along which the big parade passed on the opening day of the wedding festivities.

The Dutch military made a brave and impressive showing along with the native constabulary and the Sultan and his Javanese household and retainers were dazzling in their traditional costumes and pageantry.

The Sultan was radiant and looked happy as he gave his four princesses away. Indeed, he reminded me of the old nobleman in that charming comic opera, "Girofle-Girofla":

In me you see a father,  
A father—a father;  
In me you see a father,  
A father—a father;  
In me you see a father,  
A happy, happy father,  
Who's just got rid of four!  
Who's just got rid of four!

#### Sans Tails

To give the reader an idea of the way the Sultan and the Dutch put on the dog for this hymeneal cistedfod Mr. Roos, Mr. Bennett and the writer received orders to appear in full dress with one camera, but it so happened that none of us had the tails in our respective wardrobes and when the good Sultan heard this painful news he permitted us to appear in our dinner jackets, to the great satisfaction of three perfectly good cameramen and to the delight of some thousands of charming Javanese ladies.

The temperature was averaging around 119 in the shade, and it was a four-day job, but we managed to stick it out with the aid of a little Javanese boy, who helped us with our saturated garments, or rather poured them off us at the end of our day's work.

(Turn to Page 29)





# AERIAL PHOTOGRAPHY AND ITS EQUIPMENT

By LIEUT. R. S. MACRUM, U. S. A.

The value of aerial views has been recognized since the beginning of photography. Cameras were sent up on kites, balloons and rockets in an attempt to obtain satisfactory bird's-eye views. The real development, however, was started during the World War. It was proved that with expert interpretation of aerial photographs taken at successive periods, the story of an enemy's activities and probable intentions could be revealed. The use of photographs for obtaining or verifying activities of the enemy, his fortifications and works, his probable intentions, and for making, revising and supplementing maps were the lines of development during the war.

Peace time aerial photography developed along lines which aided in preparation of maps, real estate development, construction work

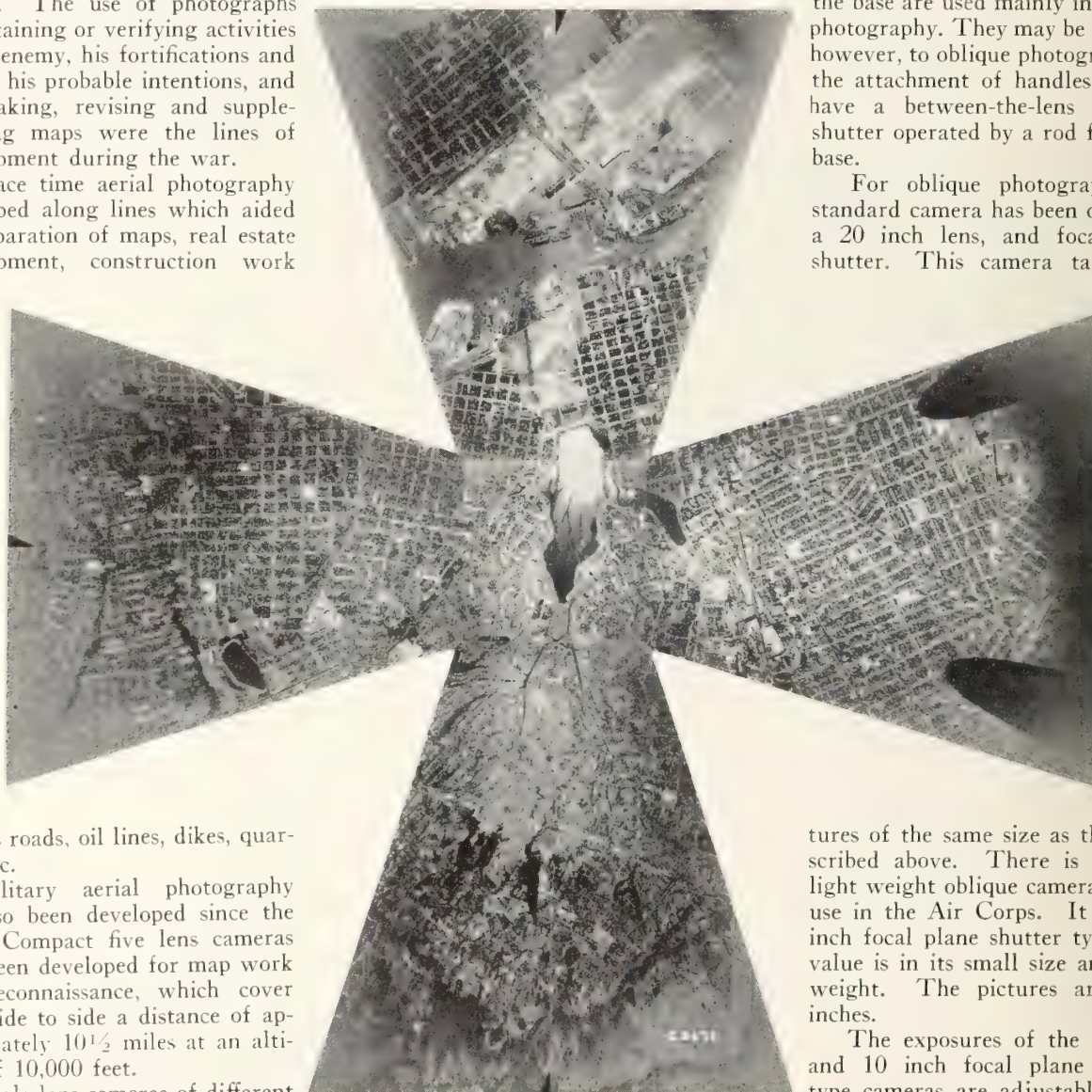
and their cones may be attached to this base as conditions require. There are the 8¼, 12, and 24 inch lenses.

The 8¼ inch lens is intended for use at a low altitude. It has a fast lens and medium altitude photography, 5,000-15,000 feet, and is a standard.

The 24 inch lens is for large scale photographs at medium altitudes, and for high altitude missions.

All three of these lenses and cones in conjunction with the base are used mainly in vertical photography. They may be adapted, however, to oblique photography by the attachment of handles. They have a between-the-lens type of shutter operated by a rod from the base.

For oblique photography the standard camera has been one with a 20 inch lens, and focal plane shutter. This camera takes pic-



Print from 5-lens camera showing Oakland, California.

such as roads, oil lines, dikes, quarries, etc.

Military aerial photography has also been developed since the war. Compact five lens cameras have been developed for map work and reconnaissance, which cover from side to side a distance of approximately 10½ miles at an altitude of 10,000 feet.

Single lens cameras of different sizes and focal lengths have been developed for special uses and for use in different flying conditions. Stereoscopic photography has been studied for its military value. The film for most of the single lens cameras is 9½ inches wide in rolls 75 feet long. One roll of film allows about 100 exposures each 7 x 9 inches in size. The multiple lens cameras take a six inch film in lengths of 120 feet and 380 feet.

A standard base for cones containing lenses varying in focal length has been developed. Three different lenses

of the same size as those described above. There is a small light weight oblique camera also in use in the Air Corps. It is a 10 inch focal plane shutter type. Its value is in its small size and light weight. The pictures are 5 x 7 inches.

The exposures of the 20 inch and 10 inch focal plane shutter type cameras are adjustable down to 1/225th of a second. The other camera for the 8¼, 12, and 24 inch lenses is adjustable down to 1/150th of a second.

Filters are used in aerial work to secure sufficient contrast in the subject so that objects on the ground may be easily identified in a photograph, and to eliminate haze. So yellow filters (blue absorbing) are used. The "Aero 1" is the weakest filter used. It approaches a K-2 in strength. The "Minus Blue" is a very strong yellow filter. It is a good haze eliminator and gives strong contrast.



For extremely high altitude photography an Aeropan K (Kryptocyanine) film is used with a deep red filter. This requires a long exposure but at high altitudes a longer exposure may be given without danger of movement in the picture. This is a haze penetrating combination.

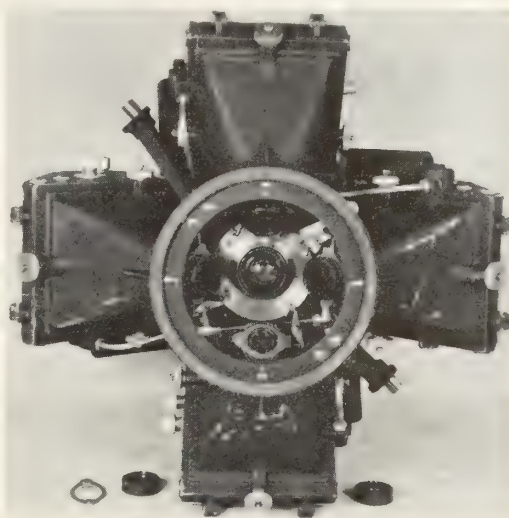
Filters will also aid in detecting color camouflage. Color camouflage depends on the inability of the eye to focus on a mass of varying colors. The eye will focus on one color at a time so the complete mass is confusing. The camera reproduces these colors as shades of grey, allowing the eye to comprehend the whole. The use of different filters aid in that they more clearly show the outline of such camouflage.

In taking vertical and oblique pictures for military use, pilots and observers must know for what purpose the pictures are to be taken and obtain pictures suitable for that purpose. For instance, a highway bridge crosses a stream at a certain point. Several views from different angles and altitudes may be taken, all being correct, but each in a special manner.

For an infantry advance in the face of fire, the picture must be taken more on the horizontal to show the various peculiarities of the terrain, such as relief, size, shape, and density of underbrush and wooded areas; and possible angles of enemy fire. This would be used in conjunction with a large scale vertical picture for the planning of the advance by the commander.

If the picture were taken to show the bridge as a target for bombardment planes, it would be taken as an oblique to show the type of bridge, the composition of

views taken on successive photographs give the exact ground distance between exposures as that which equals  $2\frac{3}{4}$  inches on the focal plane of the camera. It can be roughly estimated that the distance between exposures should be one-fourth the altitude of the plane, using a 12



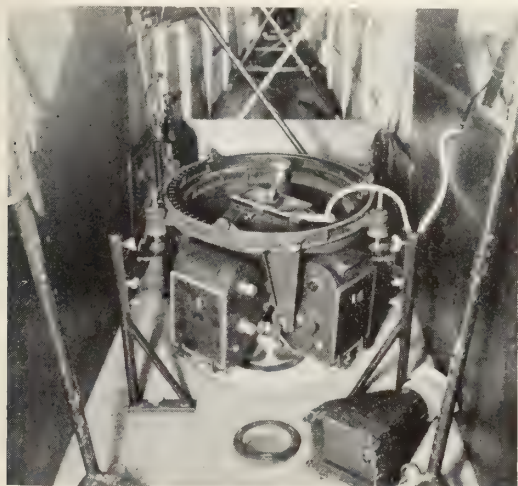
The 5-lens camera, bottom view. Notice the 5 lenses.

inch camera. For interpretation, exaggerated views are generally used as very small differences in elevation then stand out.

For mapping purposes strips of individual pictures are taken allowing an overlap of about 60 per cent on each picture along a strip and an overlap of about 50 per cent between the strips. The pictures may be matched together using the detail of the ground shown on the picture as the control, or a map projection may be prepared to scale and the photographs placed on this using survey notes as the control. Thus a map is made from many individual pictures and is known as a mosaic.

All pilots and observers in the Observation Branch of the Air Corps are required to understand the care and use of aerial cameras. A basic course is given in aerial photography and a certain amount of practical training is required every year.

(This article was written by Lieutenant R. S. Macrum, U. S. Air Corps, Commanding Officer 1st Photo Section, Brooks Field, Texas. Submitted by John L. Herrmann, Paramount News, Local 644. - Editor's Note.)



The 5-lens camera mounted in plane; view-finder on floor at right.

the understructure, and the approaches. This would be used in conjunction with a high altitude vertical to show the position of the bridge in relation to the surrounding country, as it would appear to the bombing personnel. If hostile fire prevented low altitude pictures to be taken, stereoscopic views (exaggerated) would be taken with a long lens camera at high altitudes. Study of these views in a stereoscope would reveal not only the type and construction of the bridge, but also the relief of the surrounding terrain.

Stereoscopy is also invaluable with some types of camouflage. When shadows are not present, or when color is used with good results, stereoscopy will often disclose the attempted camouflage.

Oblique and vertical stereoscopic views may be taken with a single lens camera, the former being more infrequently used than the latter. Normal stereoscopic

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America's Sweetheart.

# MARY PICKFORD

## AN AMERICAN INSTITUTION

By EARL THEISEN

*Honorary Curator, Motion Pictures, Los Angeles Museum*

Ask a close friend of Mary Pickford for his or her opinion of her and he will reply: "There is something spiritual about her."

Her actor foil will say: "She is easy to work with."

The cameraman will reply: "She does not interfere."

The studio carpenter will tell you that she remembers his first name and calls him by it.

The executive says: "She bristles with ideas like a porcupine with quills."

No one has any idea of what her charm really is—to each individual her personality is different. Each person sees her according to the things remembered from his younger days. To me she is—as an actress—hardly better than average; but everything about her is generous and lovely. It is not just the ornamental loveliness seen by the eye but the appeal that does things to the non-sensical heart. I remember a certain softness—a heart in conflict underneath her Annie Rooney rags. It is the heart of the whole of the underfoot America which knows the reality not of having the dollar. As Will Connell says of her: "She has immortalized and brought to the screen the tradition of the typical lesser-American."

A biographer of her hopes to tell of a vivid life, of big deeds, but they seem commonplace on paper. To write her story is difficult; to place her personality on paper is harder still. Her story, while full of incidents, seems unimportant.

She was born in Toronto, Canada, on April 8, 1893. She was Gladys Smith then and lived like any other youngster of poor family. Her father, John Smith, who was purser on a lake steamer, died, following an accident, in his early thirties, and left her mother, Charlotte, with a family of three to support and educate. Gladys and her younger sister, Lottie, were still in "pig-tail" curls and brother Jack was a babe. To Gladys, who was the oldest, fell some of the tasks and responsibility of caring for the family. Her younger days were spent always in the shadow of want.

Her first appearance on the stage—with the Valentine Stock Company—was at the age of five, when she played the part of Little Ted, a boy in a play called "The Silver King." Later the rest of the Smiths joined the company. The whole family, even baby Jack, was now on the stage. For stage purposes the mother took the maternal grandmother's name of Pickford and at the same time changed Gladys's name to Mary.

There followed for Mary in the next few years a variety of parts. When eight years old she was traveling on the road with "The Little Red Schoolhouse" Company. At eleven years she was playing with Chauncey Olcott in "Edmund Burke." Shortly thereafter she played the part of Betty Warren, her first appearance on Broadway, in a David Belasco production, "The Warrens of Virginia."

Though a star on Broadway, life was little more than a serious thing full of responsibilities. She had no time to play. Summers were particularly sad for the little family, since that was a time when stages were dark. All actors, then, were trying and frantically hoping to make ends meet until the next season opened. During the winter those that were lucky had saved money, that perhaps carried them through. Others had kind-hearted landladies. All were in need.

Among these was Mary, a little, sad, big-eyed girl with a grimly brave heart. Until now there had been no fun for her, but a sunnier day was coming soon.

Little did she foresee in the future on that summery day in June, 1909, when she went in search of a job to Griffith at the Biograph at 11 East Fourteenth Street, in New York. She went to the motion picture studio with only a few pennies in her pocket. She had spent her last nickel for carfare. Back of her wistful, sixteen-year-old eyes was the weariness of a lifetime. This quality with its bravery won the heart of the already famous Griffith, who told our Mary to return the following day for a job.

But Mary, like all other of the stage people then, looked askance at the unartful movies. Though she had little hope of a part on the stage during the summer, she, with a last final hope, went on her street car transfer to Times Square to the Theatrical Booking Agencies. There were no parts; she was saved for the motion picture.

Her first experience in motion pictures was a small part in "The Lonely Villa," which was released June 10, 1909. The Biograph Bulletin, number 3577, which announced this picture to the nickelodeon theatres shows it to have been 750 feet in length. In

it Marion Leonard played the lead and James Kirkwood was the mustached villain who said "Fie" to the hero who arrived just in time. The hero, of course, responded, "Tut, tut." G. W. "Billy" Bitzer was the cameraman on this now famous picture.

There were no stars then; the audiences in different communities knew their favorites by nicknames. Marion Leonard, Florence Lawrence, Arthur Johnson, Mack Sennett, and the rest of the galaxy of Biograph players



Remember her in this?







studios were conspiring for the services of the demure little Mary. Among the picture makers there were secret meetings! There was much artificial warming of the heart! And cigar buying.

To the picture public she was like a priestess of old. She was worshipped and in turn she served as, perhaps, a priestess should. She was the motion picture.

At the end of her first contract, for reason of better pictures and friendship for the likable Adolph Zukor, she turned down offers that were as high as \$208,000 a year and again signed with him at a salary of \$104,000 for the year. That was on November 28, 1914; a famous day for the Famous Players idea of Zukor.

If possible, her popularity grew. She was bringing to the screen the theme of the wornout masses; she was showing to audiences the troubles of others. She, and her curls, came to be known as the "Sweetheart of America."

Back of Mary Pickford through all this was her mother. As a result of their early hardships together they were very close to each other. Between them existed a beautiful love. Her mother largely took care of Mary's worries and business dealings. Of her mother, Mary says: "I fully realize that without her I never could have accomplished any lasting success." This mutual assistance and affection was vital in Mary's life and lasted until her mother's death on March 21, 1928.

In 1916, on June 24, Zukor and Mary again renewed their contract, which called for a guarantee of \$1,040,000 with an additional bonus of \$300,000 bonus. This was to be in the form of a \$10,000 a week salary. At this time the Mary Pickford-Famous Players Corporation was formed and it was to receive half of the profits of the box-office, which ran into millions.

That was real money. But the motion picture and its stars had cut their teeth on the dollar sign and in so doing had developed an appetite for it. The flowing of money was their life blood. They vied with each other; jealousies sprang up over incomes, while the producers sat back in the reflected attention bestowed by the public

upon their stars. It left its imprint upon the box office.

John R. Freuler manipulated for Mary's favor; Albert E. Smith wanted her in Vitagraph's pictures; so did others, but she remained loyal to what she thought was better pictures. She is like that. Persistency to the cause is her forte in life. She is untiring. Alvin Wyckoff, her cameraman in "Coquette," says she has an unhuman capacity for work. After she has rehearsed a scene for hours under the intense heat of the studio an unhuman capacity for work. After she has rehearsed a scene for hours under the intense heat of the studio lights—with the cameraman wondering when the grease paint will start running—she will look up with the whimsical "Pickford Smile" that says all is dandy. That smile remains cheerful—not as an everlasting grin—even though she be exhausted. And she never complains!

Among the more notable pictures made by her under the Zukor contract were "Tess of the Storm Country," "Madam Butterfly," "Hulda From Holland," "The Little Princess," "Poor Little Peppina," "A Romance of the Redwoods," directed by Cecille deMille, as was "The Little American," "The Poor Little Rich Girl," "Rebecca of Sunnybrook Farm," "M'liss," "Amarilly of Clothesline Alley," "Stella Maris," "Johanna Enlists," and "Captain Kid Jr.," which was the last Zukor picture.

On November 11, 1918, she signed a contract to release her pictures through the First National Exhibitors Circuit, which established her as an independent producer. The first picture, and incidentally considered one of her best under this new contract, was "Daddy Long Legs." She next did "The Hoodlum" and finished the contract with "Heart o' the Hills," from the famous book by John Fox, Jr.

Before the camera, she is not as much an actress as she is a person living a life. Her work does not need to be forced. There is a naturalness in her that is close to life—in fact so close that there seems to be almost a lack of personality.

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The busy little girl.

Top—Left to right: Jack Holt, Mary and Hobart Bosworth in "Little American"; "Suds"; "Little American"; Mary; Owen Moore and Mary in their first Zukor picture.

Below—House Peters, Mary, David Wall in "Bishop's Carriage"; "Annie Rooney"; Mary and Doug in "Taming of the Shrew"; "Annie Rooney"; Mary and David Wall in "Bishop's Carriage." (Notice Mary's O. K.)







# SHOOTING EARTH'S CURVATURE

## AERIAL PHOTOGRAPHY FROM GREAT DISTANCES

By J. M. F. HAASE

As my good friend, Jerry MacMullen, of the San Diego Union, wrote: "When a seafaring gentleman named Columbus came out flat-footed in the 15th century and declared that the rotundity of the earth was his story and he would stick to it, little did he realize that anyone would go up some three miles or more in the air and bring back visual proof that he was right."

This came through the efforts of Dr. C. W. Fredericks, of Eastman Kodak Company, his son Lieutenant T. R. Fredericks, U. S. Navy, and the writer.

Dr. Fredericks had been working on special negative emulsions and filters to use with them and believed that by using the horizon of the ocean more positive results would be obtained to show this curvature. With this in mind, he forwarded some of the plates with the camera already equipped with the filter to his son, Lieutenant Fredericks, who was attached to the squadrons of the U.S.S. Saratoga, based at San Diego.

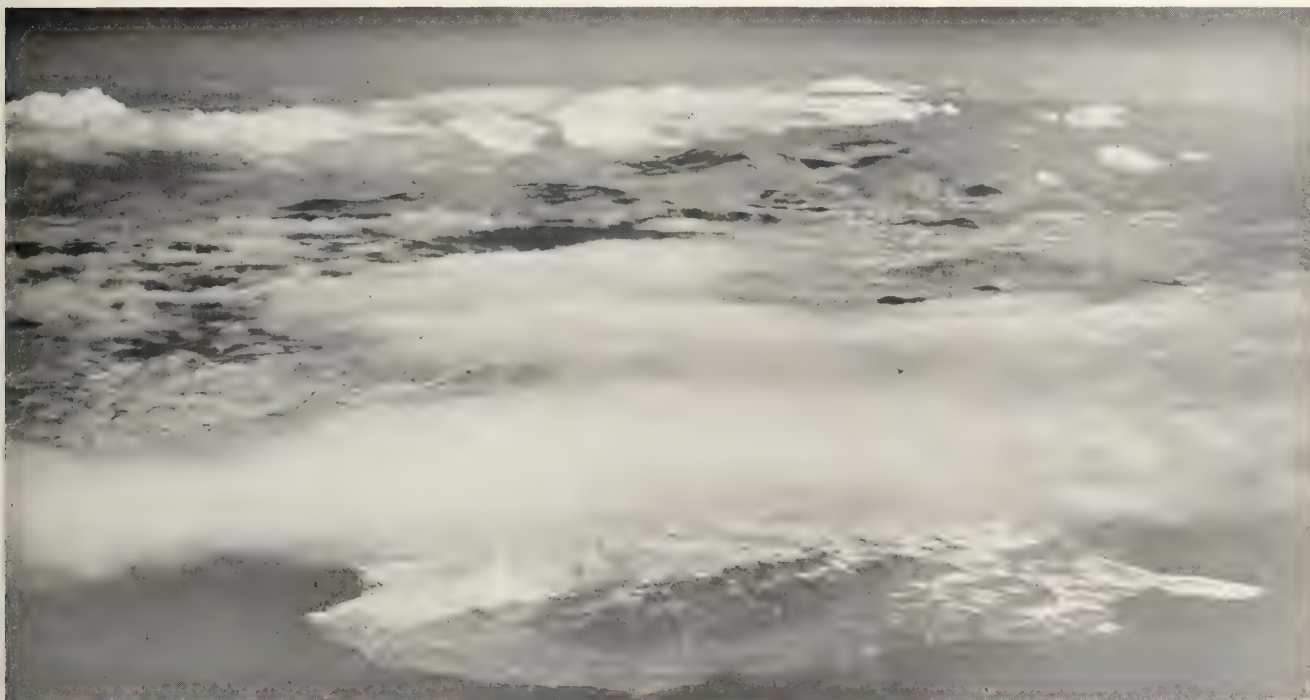
Lieutenant Fredericks, knowing the writer to be in-

sand feet above 15,000 each one of us was informed as to the other's condition.

No physical discomfiture was experienced by either of us, though in lifting the camera and moving about all action was slow and deliberate. At 19,000 feet any fast or violent movement was noticeable in breathing. Clothed in fur lined suits, no notice was taken of the cold.

As planned, photographs were made directly from a point immediately above Point Loma and by compass bearings from the plane, i.e., west, south, east and north—this to eliminate any guesswork on where a place may be when you can't see it.

Now to the technical data. The plates used were coated with an emulsion known as "Kryptocyanine" or Pan K., and the filter a deep red 89-A. Exposure one-twentieth of a second.



Upper right—Dark strip this side horizon is the Gila range of mountains in Arizona. By laying a straight-edge at both ends of the horizon the hump of the earth's curvature will be seen in center. Pacific Ocean in foreground; then La Jolla.

terested in any experiment pertaining to photography, enlisted his aid to handle the "box" while aloft. Plans were laid and a favorable morning presented itself.

Our plan was to attempt an altitude of at least 25,000 feet, but we were frustrated in this attempt when we reached some 19,000 feet by clouds that were forming so fast as to obliterate the ground and sea below. No elaborate plans were made regarding the use of oxygen tanks, electric heated suits, etc., as both of us had operated at these altitudes. The senior medical officer, on hearing of the proposed flight, requested us to keep a record of the effect upon us as we reached the higher altitudes. By the exchange of notes each thou-

AERIAL PHOTOGRAPHY FROM GREAT DISTANCES  
(Translation from the French *L'Aeronautique* by Paul Ivano, Local 659)

The United States Army Air Corps has made a thorough study of aerial photographs from great distances. From a military standpoint this technique has extremely interesting applications, especially for oblique views. Because of the slowness of the emulsions employed one has to use very fast lenses, but eventually one will be able to use teleobjectives, that will permit recording at distances over 60 miles. This will be especially useful for works of entrenchment and fortifications, but for this work one must have faster emulsions.

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# "PROPS"

## Production in the Early Days of Hollywood

In the early days of the cinema in Hollywood, Kenneth McGaffey, director of publicity of the original Lasky lot, drew a pen picture of a prop-man whom he labeled "Pete Props."

Pete was a living, breathing wonder, but wonderful as he was, he had nothing on Joe Murphy, first American prop-man to the cinema and celebrated in Hollywood as "The Mayor of Cahuenga Boulevard."

In these days a prop-man is a real "brass collar" in the studios, with a million props to choose from, the power to spend money for more and the right to an expense account, but in the days of Joe Murphy the prop-man had to be a combination horse thief and confidence man, and he had to anaconda his props if he procured any at all, and anaconda means "hook."

The redoubtable Joe Murphy was born in Al Smith's old village and did his first cine work at Baltimore in Horsley's Arlington Studio of Moto-Photography, a "glass" stage with diffusers and everything. Here he crashed the gate at a stipend of \$3.00, which the actors usually chiselled off him before pay day came.

Here Joe pulled off his first big coup. The producer needed a baby for a short shot, and Joe was brusquely ordered to go and get one. After an hour's search he found a cute baby asleep in a perambulator in the park and his colored nurse also was asleep. The set-up was perfect. Joe simply gumshoed over to the sleeping infant and gently, but firmly, trundled him over to the studio, where the scene was shot, and the baby was awarded two silver dollars for his work. Murphy was trusted with the money and ordered to get the baby back home—but how?

He just called up police headquarters and asked if a baby was missing. One was.

"Well, somebody left a baby here at the studio. He's asleep and all right."

"Hold him," said the cops. "We're coming," and in ten minutes the police arrived with the frantic colored nurse.

But the two dollars—how to get 'em into the hands of the baby's parents. Said Murphy to the cops:

"Y' see, officers, when we found this baby it looked so darn cute that the director said he'd like to put it in a scene, and while waitin' for you to come we put him into the picture and he earned two dollars for his folks."

And the cops said Murphy was a great guy, while Boss Horsley gave him a raise of \$2.00.

Murphy then went to the Nestor Studio at Mariners' Harbor, Staten Island, where three companies were working under the direction of Tom Ricketts, Milton Farney and Al Christie.

Later Mr. Horsley came to Hollywood with the three directors here named and Murphy came along. They landed here in Hollywood October 27, 1911, and that was the beginning of the cinema on the West Coast.

Murphy was a busy boy. All he had to do was to procure what the director asked for and not talk back. If the great god of the megaphone wanted an iceberg or a thousand legged worm or mayhap a Gila monster, he merely revealed his lack to Joe, and Joe produced it without delay.

One day while shooting "The Music Master" Vivian

Rich (remember that delicious bit of girly sweetness;) needed a pair of long stockings with stripes running around them and Murphy was ordered to find a pair.

A schoolboy passed. He wore a pair of long striped stockings. Murphy went into conference with the lad. An hour later the prop man presented a freshly laundered pair of striped hose to Vivian, while a new face appeared in the cast in the person of a barefoot boy.

Now Director Tom Ricketts was a lover of flowers and his house in those days was a veritable bower of plants and posies. He also loved portieres on his sets, and one night he startled our prop-man by giving him peremptory orders to have his new set embellished with five portieres and all the flowers in Hollywood—8 A.M. the next day was the zero hour.

Morning came, and when Director Ricketts saw the set he was entranced. Flowers were everywhere, and the required portieres were there, too. He slapped Murphy on the back and told him he was the only prop-man in the world.

But wait.

The next morning Mr. Ricketts arrived at the studio with a jaundiced expression in his eyes and a large shillalah in his gnarled mitt. Quietly he asked for Murphy, but Murphy had gone down to Malibu Beach for a day or two.

You see, while Mr. Ricketts was out of town for a few hours Murphy backed a few trucks up to his home and took away to the studio every plant, fern, cactus and flower he had on the place, including his portieres. But the picture was good, so Murphy was forgiven.

On another occasion, while filming a Western, Director Ricketts suddenly demanded a water hole and he wanted it instant. Murphy went temporarily insane, for there wasn't any water within many miles. As usual, he didn't say a word, but started the old brain box to clicking. He went out behind a prairie schooner and began to tell his troubles to Zeke, his pet horned toad.

He heard a rumble in the trail, and to his joy a Victorville dairyman came along with sixteen cans of milk in a big borax wagon. Half an hour later Murphy reported that the water hole was ready.

"Marvelous," said Director Ricketts, as he looked at the water hole, "but isn't the water a bit white?"

"Oh, that's all right, sir," jittered Murphy. "You see it's the alkali in the water."

And when the first of the month bills came in Mr. Horsley wondered what the heck Ricketts' company did with all the milk Murphy bought on that desert location.

The famous Poverty Row had its beginning in 1918 when Murphy went into production on his own account. His capital was six bits, and he started out to make three five-reel Westerns. His cameramen were Art Reeves, Russ Fisher, Joe Brotherton, Jack Rose, Harry Fowler and Joe August.

And when Joe Murphy tells me he made those three Westerns with six bits I believe him. There was never anything like it in the entire history of motion pictures. The cameramen were willing to wait for their money. He chiseled the Park Board for six days' use of Griffith Park. He chiseled the Western Costume Company for guns, ammunition and wardrobe. He sold Earl Hines of the H. & H. Laboratory the idea of handling the film for the glory of the thing and, after brief negotiations, he secured the loan of thirty head of horses and six burros from a gang of stranded road workers in Topanga Canyon.

Feed? Easy. Simply went to a feed dealer and asked him for enough feed to see him through the eighteen days of production. Pointed out what a gold mine there was making Westerns, and promising him all the

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# AROUND THE WORLD

No. 3

With HERFORD TYNES COWLING

## "On the Road to Mandalay"—Burma

The "Road to Mandalay" stretches northeast from Rangoon, the capital of Burma, 350 miles by land or up the Irrawaddy River to the Pagoda City of Mandalay. While the overland trip by motor or rail is the quicker by far, the most picturesque and comfortable is by deluxe river steamers that ply up and down the Irrawaddy River, towing immense barges that are literally floating bazaars or department stores.

Two of these double deck merchandising marts are attached to the river steamers (one on each side) and move only during the day. At important landings they stop thirty minutes while large crowds of natives rush on board to shop and exchange their wares, hides, chickens, lacquer ware, pottery, vegetables and stones of jade and rubies. Even amber is bartered for cloth and other manufactured goods.

The shop keepers are chiefly Bombay Indians who drive a shrewd bargain quickly, and as the gang-plank is pulled in, many late shoppers jump into the river to avoid being carried away. Nearly a thousand miles up the river these floating merchants trade, while at night a screen is erected on shore and moving pictures projected from the steamer to the portable screen, space being roped off at about two cents per admission.

The Burmese are a very picturesque people, cheerful, artistic and amusement loving. The women are well treated and attractive looking. Men and women alike are well clad and delight in gay colors and silk attire. Both sexes wear a cylindrical dress called lungyi, which is folded over in a simple fold in front and reaches to the ankles. The men wear also a single breasted short jacket of sombre hue called an aingyi. The women's garments are similar, but double breasted, and usually white.

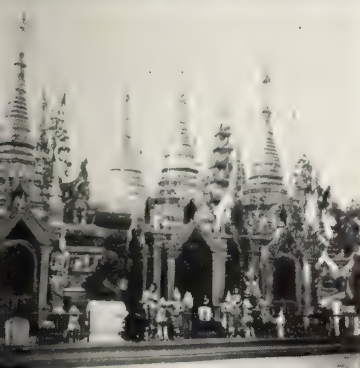
In religion they are almost entirely Buddhist, with the exception of the hill tribes, which are not Burmese, but Shans. Every Burman is supposed to spend a certain part of his life (usually about a year) as a novice, wearing the yellow robes in the Monastery. During that time he must beg his food morning and night from the populace. The shaven headed monks are the schoolmasters of the country, performing this duty in return for the support they receive from the people, and a Hpoongyi (or monk) is the spiritual head of every village.

The Burmese picturesque dance-acting is a constant

*(Continued on Page 45)*

Left—Beginning at top—reading down—The great Lion Pagoda on the Irrawaddy River . . . Some of the many shrines around the great Shwe Dagon Pagoda at Rangoon . . . The famous Reclining Buddha in Burma; note steel roof recently built over image for protection . . . Native Burmese oil well dug beside a modern derrick; the natives dig a hole about four feet square and three or four hundred feet deep; the digger is lowered on a rope while air is pumped into the shaft by hand pumps operated by the women above . . . Women pumping down air . . . Close-up of native oil well.

Right—Beginning at top—reading down—Myself lined up to shoot on the base of Lion Pagoda . . . An interior shot of the great Shwe Dagon Temple at Rangoon, Burma; this pagoda covers ten city blocks and is surrounded by hundreds of small shrines, sacred places of worship . . . Huge image of the blessed lord Gautama Buddha, erected on a sacred spot . . . Resting our yoke of bullocks en route with my equipment to Mandalay . . . Raft of teakwood on the Irrawaddy; these rafts are floated down the river 800 miles; the natives in charge live on the rafts and raise chickens, pigs and other live stock; teak logging is very profitable . . . A Burmese male dancer.







—Photo by Ruth Nichols.  
Clarence Chamberlin and Mr.  
Barleben.

# FLYING WITH THE LEICA CAMERA

By KARL A. BARLEBEN, JR., F. R. P. S.

Aviation is no longer the dangerous adventure it used to be and, to-day, thousands of people travel by air each year as a regular thing. It is but natural that many of these thousands would like to make a pictorial record of their air trips but are prevented from so doing by the idea that special photographic apparatus is necessary. The truth of the matter is that aerial photography as practiced professionally does demand special equipment, but for amateur record purposes almost any camera will turn out cred-

itable work if used intelligently.

The one big disadvantage of the average camera in aerial photography is the leather bellows which join the camera body to the lens—it does not take a very strong gust of wind to cave the bellows in to such an extent that photography becomes impossible until they are again placed in their proper position. All aerial cameras, it will be noted, are constructed entirely of metal, and what is ordinarily the bellows of a regular camera is a strong metal cone which tapers down to the lens on the aerial camera. Most amateurs are not easily discouraged and we find that those who enjoy making aerial photographs, and who cannot or do not care to invest in a regulation aerial camera (they cost hundreds of dollars), build metal shields which fit over and around the camera bellows in such a manner as to protect them from wind. Such home-made devices seem to work out satisfactorily.

Aerial photography presents strange and often difficult problems in one sense, yet on the other hand this work is extremely simple. For average occasional air pictures the amateur photographer need not invest in the special cameras, for his own equipment can be made to serve nicely, if possibly somewhat awkward and bulky. The problem of cameras best suited for air work is, of course, an individual one, and depends greatly upon the type of equipment already in the individual's possession.

For example, a large view camera, 8x10, would hardly make aerial work a pleasure due to its design and bulk. A reflex type of camera, such as the Graflex, is better because of its smaller size and focal plane shutter. Folding

cameras, such as the Kodak, can be used, as can also the lowly box Brownie, but in each case special handling is required. I am a firm believer in the miniature type of camera, yes, even for aerial work—and I'll tell you why.

The majority of 'planes are small and offer at best cramped quarters. Space is at a premium. We cannot alter the 'plane, nor make it larger to suit our convenience, but we can use smaller cameras which will permit us greater freedom and latitude. Score one, then, for the tiny size of the miniature camera. It can be whipped into action on a moment's notice—a half-dozen pictures can easily be recorded with the miniature camera in the same time that is required for one exposure in the average camera of conventional size and type. This is important in aerial photography. Then, too, there is the matter of re-loading the camera while in the air. The majority of miniature cameras make sixteen exposures to the roll of film. Those using cinema film, producing negative images 1x1½ inches, are capable of recording thirty-six pictures per loading. What does this mean? It simply means that the photographer is required to load his camera fewer times, hence he can record many more pictures because the time lost in re-loading is reduced substantially. Again, the miniature camera is not only easily loaded, but quickly loaded; hence there need be no lost time to be compensated for in re-loading while in the air.

The Leica camera seems to be the ideal miniature camera for aerial work because of its (a) small size (b) precision mechanism and optics, (c) focal plane shutter with speeds up to 1/500th of a second, and (d) the battery of lenses with which it may be equipped. Because standard 35 mm. cinema film is used in this camera, a wide range of emulsions can be used. This allows the photographer to select the appropriate film for various conditions and filters. The majority of pilots, who play with photography as a hobby, are equipped with the Leica, for they know its value in their particular activities.

Before continuing, it might be well to bring up a question that invariably comes up when the miniature camera is discussed in connection with aerial photography, and that is the matter of results—can the resultant prints compare with the results of larger cameras? That is the all-important question. The answer depends entirely upon the individual, for I have seen small enlargements which were perfectly terrible, and again I have seen tremendous enlargements which were as clear and sparkling as contact prints. Some workers can do it, others cannot, but where there is a will there is a way, and the real minia-



Leica shots of New York City taken by Mr. Barleben.



ture camera enthusiast usually finds a way out of all his difficulties—if he really wants to. It is, of course, admitted that miniature photography is still in its infancy, and therefore is not to be indulged in by "rule of thumb" methods. New facts are being constantly revealed, new formulas are being compounded, new methods of reducing grain are being discovered right along. It is mainly because miniature photography is still somewhat in the experimental stage that many people shun it as being impractical. The fact is, however, that perfect results can

value of the focal plane shutter for aerial work. All special aera cameras use this type of shutter, not only because of its fast speeds, but also because the movement of the shutter can be made to travel in the opposite direction to the movement of the object—in this case the landscape as it flits under the 'plane. Investigation has shown that proper thought and consideration of this matter definitely improves the results. The Leica, with its highly efficient and accurate focal plane shutter, can be made to produce the same results as those made with aero cameras.

Lens equipment requires careful thought, for it seems that a great many amateurs believe a telephoto lens to be necessary for aerial work. While a long focus lens is sometimes desirable, it is better to select a shorter focal length lens for general work in the air, for it does not pick up vibration as does the telephoto. The telephoto lens requires a proportionately shorter shutter speed than the shorter focus lens for this very reason, and fast shutter speeds become impossible in many cases—such as when deep filters are being used to cut through haze. The professional cinematographers, who make a specialty of aerial photography for the studios, do not often use telephoto lenses on their motion picture cameras except under ex-



Leica shot of the Statue of Liberty.

be produced with the tiny cameras if a little care is used.

For example, take the question of film. In aerial work with the miniature camera a fine-grain film is necessary. A contrasty film, too, is desirable. Fine-grain developing of the negative becomes important. Fortunately, because the Leica uses cinema film, we can select our films from a wide variety. For aerial work the DuPont  $\frac{1}{4}$ -Speed Pan is ideal, for it possesses the usual panchromatic qualities, is extremely fine-grained, and has just the proper degree of contrast. Develop this film in a reliable fine-grain formula, and enlargements up to 11x14 are easily possible—and without sacrificing sharpness or producing grain in the print. Each tiny detail will stand out in surprising relief. Or again, there is the Agfa Plenachrome film. This film, while not of panchromatic characteristics, possesses excellent qualities for aerial work—fine-grain, speed, and excellent color values, considering that it is an orthodox film. Other fine-grain ortho films include Perutz Persenso and Gevaert Express Superchrome. Naturally, there will be times when a full panchromatic film with exceptional speed will be needed, and in such cases fine-grain will have to be sacrificed somewhat—although by means of special developing, fine-grain results can be obtained. Films in this class include DuPont Superior Pan, Eastman Kodak Supersensitive Pan, and Agfa Superpan.

Shutter speeds are of tremendous importance in aerial work, for the speed and vibration of the 'plane demand speedy exposures. There is but little question as to the



A Leica photograph of the Empire State Building, from the air.

tremely favorable conditions. The miniature camera equipped with the usual 50 mm. focus lens is capable of turning out as satisfactory aerial photographs as the one equipped with a battery of various telephoto and speed lenses, although, as has been mentioned before, there may arise conditions which demand these extra lenses.

All lenses for the Leica are solidly attached to the camera, that is to say, there are no bellows to worry about. The battery of Leica lenses offers several excellent objectives for aerial use which seem to strike a happy medium—not too long, and not too short in focal length. I refer to the Hektor f:1.9, 73 mm. lens and the Elmar f:4, 90 mm. lens. It will be noted that the above mentioned

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# LIGHT FILTERS

## FROM THE CINEMATOPHAGERS VIEW POINT

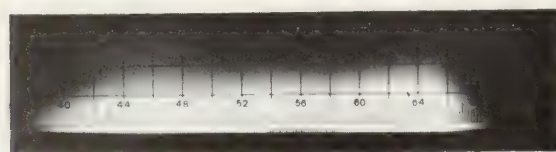
By EMERY HUSE and NED VAN BUREN\*

A Series—Part II.

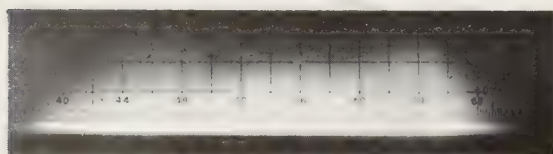


It will be observed that in the photographic spectrograms in Figure 3 the ordinary sensitized emulsion has its maximum sensitivity at approximately 470 millimicrons. In the case of the orthochromatic materials, a maximum occurs in the green at a wave length of approximately 560 millimicrons. This, of course, is in addition to its normal blue sensitivity. The panchromatic emulsion of the super-sensitive type shows a peak of red sensitivity at wave length approximately 640, also in addition to its blue and green sensitivity. It can be quite clearly seen by comparing the visibility curve of Figure 4 with the emulsion sensitivity curves in Figure 3 that the photographic emulsions and the human eye observe colored objects quite differently†

This subject of wave length sensitivity, transmission, etc., necessitates consideration of the emission spectra of various light sources. In the problem with which this paper deals, i.e., the study of filters as applied to dramatic cinematography, almost exclusive use is made of daylight (including sunlight). As a matter of interest, there is presented in Figure 5 two wedge spectrograms made on Super-sensitive Panchromatic Negative to both daylight and tungsten sources. Although it is very rare in the natural sequence of events in black and white photography to use filters on a studio set illuminated with tungsten,



Daylight



Tungsten

Figure 5.

it will be of interest to cameramen to observe the difference in the emission spectra of these two sources as recorded by super-sensitive film. Examination of these

\* Figures No. 1, 2, 3, 4 are to be found in The International Photographer for July.

† West Coast Division, Motion Picture Film Department, Eastman Kodak Co.

spectra will show that there is a greater degree of red emission in tungsten than in daylight as recorded by the super-sensitive film. There are other spectral differences but they are not of as great importance as this red difference.

An inter-comparison of Figures 3, 4, and 5 enables one to make a complete interpretation of a scene in terms of the perception of it by the eye and also by the photographic material when illuminated by either daylight or tungsten. The eye discerns an object in a scene by virtue of its difference in brilliance contrast, hue contrast, or saturation contrast. The photographic emulsion records the scene in quite a different manner due to the existing difference between eye sensitivity and emulsion color sensitivity. Of course both factors, visual and photographic, are governed by the quality of the light emitted by the

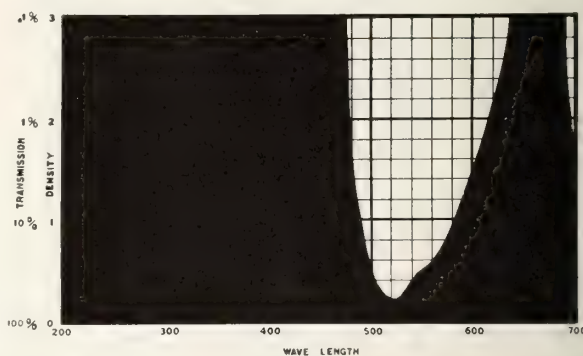


Figure 6.

source. Now, added to these factors when filters are introduced into the photographic system, is the spectral transmission of the various filters which are selected for use.

The Wratten light filter booklet published by the Eastman Kodak Company contains the spectrophotometric curve of each Wratten light filter. A typical example of one of these curves is illustrated in Figure 6, which is representative of filter No. 58. In this chart there are two vertical axes, one of density increasing from 0.00 to 3.00 and one of transmission decreasing from 100% to 10%. It will be remembered that there is a very definite relationship existing between density and transmission. This is shown by formula

$$\text{Density} = \text{logarithm} \frac{1}{\text{transmission}}$$

From the figure it can be seen that a density of 0.00 has 100% transmission, which is to be expected. At a density of 1.00 the transmission is 10%. At a density of 2.00 the transmission is 1%, while at a density of 3.00 the

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# Filmo Professional Amateur

By R. FAWN MITCHELL\*

Written for The International Photographer

When one looks back over the rapid development of the 16 mm. field, one is struck by the rate at which 16 mm. film has grown out of its role as a purely amateur standard. Even in the early days, executives, doctors, and other professional men who bought 16 mm. equipment were enthused by the possibilities of using this equipment in their business or profession.

With the introduction by Bell & Howell of the spring driven camera equipped with many features hitherto found only on professional cameras, the amateur was able to emulate the professional type more and more successfully.

Once the amateur had a taste of the possibilities of the more elaborate and professional effects, the demand for still greater flexibility grew with increasing rapidity.

Bell & Howell, in line with its long established policy, has meticulously endeavored to avoid obsolescing existing equipment. They have always felt that inasmuch as they did their best to make equipment stand up for many years, they wanted to protect owners against unnecessary obsolescence of their Bell & Howell equipment. For this reason, the new professional features that are now available for Filmo owners have been worked out so that they can be installed on any existing 70 or 70-D camera. The very first Filmo 70 cameras that were sold can be equipped with the new range finder, motor, magazine, etc.

Let us review for a minute the various features which can be, and have been, added to the first Filmo cameras sold. This will give an idea as to the most important de-

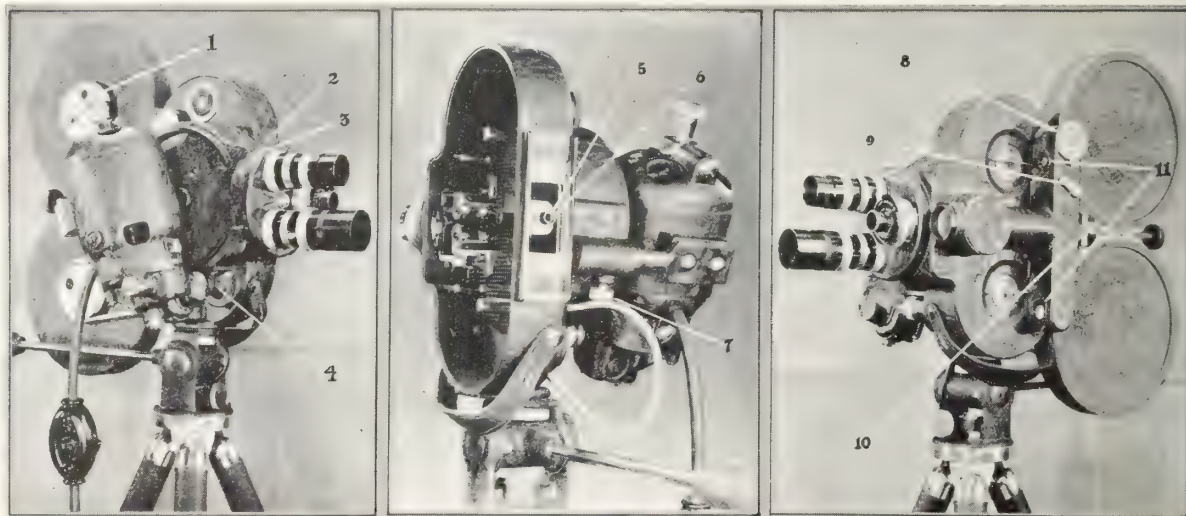
velopments in the progress of more and more elaborate 16 mm. equipment. The first development was the changing of the governor to give various speeds. Instead of being content with 8 and 16 speeds, the range was changed to 12, 16 and 24, and then to 16, 24 and 32. The range on the 70-D types of cameras is from 8 to 64 pictures per second. This is adequate for any purpose normally considered.

The next development was a turret holding three lenses so that the user could switch from the regular lens to a wide angle, speed or telephoto lens at short notice. As was the case with the professional cameraman and his Bell & Howell studio camera, (the first to utilize the turret), the amateur soon found that a turret was an indispensable feature and practically all of the modernized cameras are accordingly equipped with turrets.

The next development was a more flexible finder—a necessary concomitant to a turret. It was not much use to turn over a turret to change the lenses quickly if one could not set the finder to correspond in an equally short time. The well known drum type viewfinder as introduced in the 70-D camera has met with such favor that this type of finder has been fitted to many of the older 70-A cameras.

For several years past, Filmo cameras have been fitted with hand cranks to enable the entire 100' roll to be run off without stopping. It was soon found that the hand crank was very desirable for backing up the film in the making of lap dissolves, using the iris of the lens in lieu of a dissolving shutter. It is possible to back up a foot or two of film in this manner quite satisfactorily, so that this desirable professional feature was obtainable without increasing the bulk or weight of the camera.

With the introduction of the Eyemo camera equipped with motor and magazine, it was a logical development to equip the Filmo camera accordingly. This method of adding such features to the camera has several important advantages, apart from avoiding obsolescence of existing equipment. The motor can be supplied in either a 12 volt or 110 volt specification. With the 12 volt motor the camera can be operated very satisfactorily by a couple of six volt automobile ignition dry cells which are obtainable anywhere. Due to the low current consumption of the motor, these cells will expose at least five or ten thousand feet of film. Then again, all airplanes are



1—Knob for turning over motor by hand for threading. 2—Starting button. 3—Lever to throw gravity catch in or out of engagement. 4—Handcrank socket on camera. 5—This pin is operated by closing door latches. It opens magazine valves when camera door is being opened. 6—Magazine locking screw engages here. 7—Screw which locks motor in place. 8—Range finder dial. 9—Range finder lever "in" position. 10—Prism on eyepiece to enable user's head to clear the magazine. 11—Optics of range finder.

velopments in the progress of more and more elaborate 16 mm. equipment. The first development was the changing of the governor to give various speeds. Instead of being content with 8 and 16 speeds, the range was changed to 12, 16 and 24, and then to 16, 24 and 32. The range on the 70-D types of cameras is from 8 to 64 pictures per second. This is adequate for any purpose normally considered.

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equipped with twelve volt generators so that a motor drive of this specification is invaluable for aerial work. The camera can be mounted on the wing or fuselage of a plane and controlled by a convenient switch in the cockpit. For analysis of landing gear in action, for example, this installation becomes invaluable. The camera thus equipped can run 24 feet at a winding of the spring, or the entire roll can be run off, either by hand crank or electric motor, as may be most convenient.

The regular camera governor is used to regulate the speed. This is calibrated to within two percent—as ac-

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\* Manager, Technical Service, Bell & Howell, Chicago.



# EUROPEAN SUPREMACY?

By PHILIP TANNURA

Not long ago whenever motion pictures were talked about in Europe the names of American companies were mentioned loudly, also, very quietly, Ufa and Gaumont-British. Later an agreement was reached between Ufa and G. B. to exchange stars with the help of British finance. This worked out quite successfully until Herr Hitler came along and wiped the Ufa and several other companies off the map. This left a grand opening for G. B. She did not wait a minute—while America was in the slump of depression and Europe on the brink of war Gaumont-British quietly went on their way building



MacWilliams

Glen McWilliams, cameraman, and Anatol Litwak, director, watch the rehearsal of a scene for "Sleeping Car," a Gaumont-British picture.

a gigantic studio, with five stages, at Lime Grove, Shepherds Bush.

This studio was finished last June at a cost well over \$250,000. The studio is a striking tribute to the go-ahead and far seeing policy adopted by Gaumont-British. There are numerous offices for executives and clerical staffs, a main theatre with accommodation for 250 people and also three smaller ones for daily rushes. Eleven modern cutting rooms are a paradise for film editors with the laboratory in the south wing. In the north wing are the carpenter shops, electrical stores, camera shop, still lab and rehearsal rooms, a canteen large enough to accommodate 200 people simultaneously, and a restaurant to handle an additional 300.

The stages have been equipped with up-to-date lighting apparatus on the style of Hollywood's best studios. The biggest feature (which is a surprise that Hollywood has not used) is the scaffolding for lights, platforms, and for everything and anything conceivable to the mind.

What a break a cameraman gets for the handling of his lights on this scaffolding.

Speaking of breaks—I must say that the employees of Gaumont-British are getting theirs in the way of having such marvelous executives at the head of the studio. In the old days of motion picture producing in the United States the heads used to take a personal interest in the doings of their employees—the employees in return used to work endless hours to give satisfaction in the hope of producing an excellent picture—but alas,



What can be done with new scaffolding—all sizes and shapes of cranes can be made at short notice. This picture shows Philip Tannura and the Director Milton Rosmer on the crane making a scene from "Channel Crossing."

what has happened in Hollywood—the same employees and executive heads are going in different directions.

Not so with Gaumont-British. Mr. M. E. Balcon, in charge of production, is never too busy to see every day's rushes—these from five different companies—never too busy to go on the floor and give workers an encouraging word when the stuff is good—and when the stuff is bad he doesn't fly off the handle as most Hollywood producers do but gives the persons involved another encouraging word in the most convincing and gentlemanly way and, in return, each and every employee is breaking his back to give service in a happy mood,



Van Enger.

Chas. Van Enger and Victor Saville on location at Welwyn Garden City where wartime scenes of the Belgium village of Roulers were filmed for the Gaumont-British picture, "I Was a Spy."

all seriously hoping that every picture made is better than the last. Such cooperation between the executives and employees is one main reason why Gaumont-British has dominated the European market and also making great strides towards the American market.

This company has stopped at nothing in getting technical experts behind the cameras. Three Hollywood camera and lighting experts have been engaged and when

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# A NEW DEVELOPMENT IN CARBON ARC LIGHTING

By **ELMER C. RICHARDSON**  
of Mole-Richardson, Inc.

In this motion picture industry technical developments are ever progressive. A new development in raw film stock can easily bring sweeping changes in lighting, make-up technique, applications of filters and lenses to the new medium.

One of the leading firms in the field of color motion pictures has developed a process of photography in which the lighting may best be supplied from carbon arcs.

Though there are available in the studios Sun arcs and 80 amp Rotaries whose operation is satisfactory in conjunction with sound recording, there has been no development of general broadside lighting units during the past ten years. Though the old side arcs served a

the light source be comparatively uniform at all times, which of course is a relatively simple thing to do with filament lighting, but quite a different problem when required in the design of a broadside arc lamp.

The old type of studio side arc fails to meet the demands of the sound department for quiet operation. In designing modern equipment, next to the fulfillment of the photographers' demands, quiet operation probably is the next essential factor.

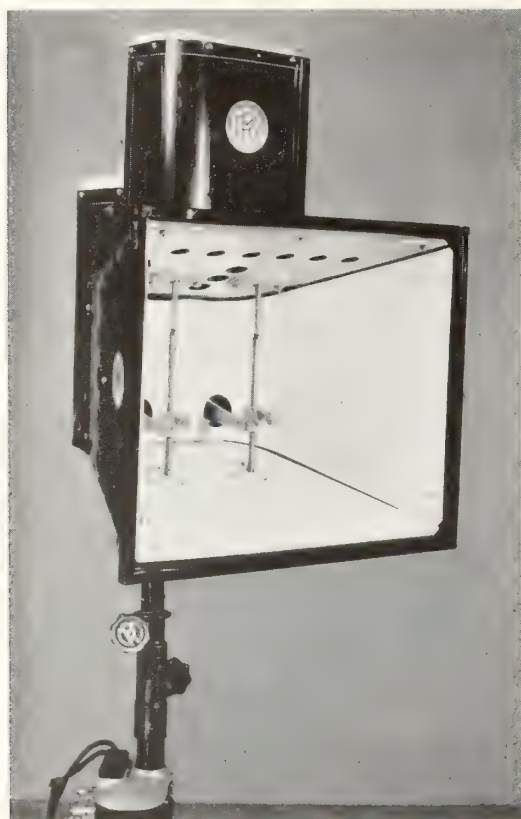
With the objectives enumerated above, the problem of meeting these requirements was put up to the firm of Mole-Richardson, Inc., and after several months of experimental development and tests, they have produced their Type 29—40 ampere Twin Arc Broadside, designed to operate on 115 volt, D. C. current.

This new lamp appears to have fully met the requirements specified and embodies the application of entirely new principles of arc control. Instead of striking the arcs and controlling their position while in operation by means of a single current coil as has heretofore been the common practice, each pair of carbons in the new lamp is controlled by an independent system of energizing coils, armatures, and connecting linkage which permits independent feeding of each of the two arcs and prevents the intermittent blinking so often experienced in the old type of equipment.

In the new design advantage has been taken of the modern lightweight materials. Sheet metal parts are of duralium. Reflectors are chromium plated, and liberal use of high grade aluminum castings is made throughout the entire assembly.

The high intensity of this lamp has been obtained by utilizing a new type of Flame Arc carbon which was developed through co-operation of Mole-Richardson, Inc., and the National Carbon Company, whose engineers know more about the application of carbon arcs to photography than anyone in America, if not the world. The new carbons are 8 m.m. in diameter, approximately 5/16ths of an inch and are lightly copper coated to produce satisfactory conductivity. The coring of these arcs has been effected so that from a photographic standpoint their radiation is comparable to mid-day sunlight, and their small diameter combined with the coring has for a given amperage increased the illumination over 50 per cent. In fact this carbon trim when used in the new lamp with its superior reflecting surfaces produces illumination of an intensity three times as great as that afforded by the old type arcs when both types are compared operating open. The new lamp when used with the special diffusing glass, whose high lead content impedes the transmission of ultra violet light so injurious to the eyes, affords more than twice the illumination supplied by the old arcs when they were operated open.

While filament lamps have undoubtedly demonstrated their advantage as an illuminant for many types of motion picture photography, there are many scenes which may be more advantageously photographed under arcs or by a combination of arc and filament lighting. Cinematographers will doubtless be interested in the use of these new broadside lamps both as utilized in the fields of colored and black and white motion pictures.



The new high intensity lamp developed by Mole-Richardson, Inc., and National Carbon Company.

very useful purpose in the days of silent pictures, the requirements of modern technique demand equipment that is superior to those formerly used.

For the new colored process mentioned above, there is required a lamp which will produce an illumination level of 200 foot candles as measured at 15 feet with a standard Weston photometer.

In order that the actors may not be subject to the eye injury, known to physicians as *simple conjunctivitis*, but popularly called "Klieg eye," it is essential that carbon arc radiation be filtered through glass having high lead content.

Since it is customary to make "pictures takes" which frequently extend over several minutes, it is necessary that



# ANENT THE MICROPHONE

By CHARLES FELSTEAD\*

There are several forms of the microphone; but three of them will be discussed here because they are of particular interest to the motion picture soundman. The single and double-button carbon microphones will not be considered because they are practically useless for high-quality recording, primarily on account of the carbon hiss that is present in this type of microphone. Although there have been occasions when the double-button carbon microphone was used for emergency recordings where the moisture in the air has made condenser microphones inoperative.

The foremost of the three forms of microphones employed for sound recording is the condenser microphone. Briefly, this is a device that resembles a small fixed condenser with a gaseous dielectric, whence its name. The condenser is formed by two metal plates spaced one-thousandth of an inch apart. One of these plates is thick and heavy, but perforated with many small holes. The other plate is of very thin duralumin and is so tightly stretched that its resonant frequency is well above the principal audio range employed in recording.

The thin plate forms the diaphragm of the microphone, and vibrates readily when the alternate rarefactions and compressions of the air that constitute a sound wave impinge on it. The space between the two plates is varied by this movement of the thin plate. This variation results in a change of capacity of the condenser, which is translated to pulsations of electric current in the grid circuit of the vacuum tube associated with the condenser transmitter.

The vacuum tube, besides matching the extremely high electrical impedance of the condenser transmitter to a low-impedance transmission line, amplifies these minute current variations to a value that may be transmitted without interference from crosstalk along a cable to the main recording amplifiers. These very weak speech currents are again enormously amplified in these main amplifiers and then supplied to the recording devices.

The space between the plates of the condenser microphone is filled with an inert gas. The holes in the heavy back plate are provided to permit the passage of the gas to a closed chamber back of this plate when a sound-pressure wave drives the diaphragm backward. An ingenious device that compensates for changes in atmospheric pressure is combined with this chamber; but it is too complicated to describe in the space available.

The great disadvantage of the condenser microphone is that it is so closely associated with its vacuum-tube amplifier that the two must be built into an integral unit. The resulting microphone is bulky and heavy, a rather difficult thing to handle with any ease on the end of a long microphone boom. Also, the condenser microphone is susceptible to dampness. A considerable amount of moisture in the air will cause a condenser microphone that has been exposed to it for some time to become noisy.

The second type of microphone, which has recently come into use for sound recording, is the ribbon microphone. This form of microphone is much simpler than the condenser microphone. It consists essentially of a rather wide but very thin ribbon of duralumin that is corrugated by running it between the teeth of coarse gear wheels. This ribbon is suspended loosely by its ends between the two poles of an electromagnet, and

transversely of the magnetic field of force between the poles. The electromagnet is energized by current from a local battery.

A sound-pressure wave striking the thin ribbon causes it to vibrate in the same fashion that the diaphragm of the condenser microphone vibrates. This movement of the ribbon in the magnetic field of the electromagnet causes an electric current to be set up in it, operating under the electrical law that a conductor moving in a magnetic field has an electromotive force induced in it by its action in cutting the magnetic lines of force of the field. The magnitude of the induced emf is equal to the rate of change of the magnetic flux through the circuit. Which means that the greater the movement of the ribbon, the larger will be the voltage induced in it.

The minute alternating current within the ribbon is fed through a transformer to the grid circuit of a vacuum tube. But in this microphone, the impedance of the line transmitting the current from the microphone to the amplifier is low; so the microphone can be used at a considerable distance from its amplifier without ill effects. This is a great advantage; for the ribbon microphone itself is extremely light in weight and can be handled very easily. Because of its small size, it may be concealed readily in the furnishings of a motion picture set.

Another advantage of this type of microphone is that it is decidedly directional. Only sounds coming from the two quarters facing the flat sides of the ribbon will cause the ribbon to vibrate and produce speech currents. Sounds originating in the other two quarters strike the edges of the ribbon and have no effect upon it.

The great objection to the ribbon microphone is that the loose suspension of the ribbon allows the slightest physical vibration of the microphone support to make the ribbon tremble, which movement produces sound currents just as readily as do sound-pressure waves. These extraneous currents interfere so seriously with the recording that the greatest care has to be exercised to prevent the microphone from receiving mechanical shocks.

The third type of microphone, the dynamic transmitter, seems to have the greatest inherent possibilities; although due to mechanical difficulties these possibilities have not yet been fully realized. A coil is attached to the back of the diaphragm of this microphone. This coil is supported in a magnetic field, just as the ribbon of the ribbon microphone is suspended between the poles of an electromagnet. And like the ribbon, the coil attached to the diaphragm moves in the magnetic field when a sound-pressure wave strikes the diaphragm of the transmitter.

The movement of the coil in the magnetic field sets up a current in it which varies in accordance with the variation in the movement of the diaphragm under the influence of the sound wave. The higher the frequency of the sound, the more rapid will be the movement of the coil and the higher will be the frequency of the electric current generated in it; and vice versa. Likewise, the greater the amplitude of the sound wave, the greater will be the movement of the coil, which will result in a larger electric current being produced in it.

The variations of current in the moving coil are sent through a transformer to the grid circuit of a vacuum-tube amplifier; but, like the ribbon microphone, the connecting line is of low impedance. That permits the transmitter and its amplifier to be separated by a considerable distance without very great attenuation of the speech

(Turn to Page 20, Col. 1)

\* Formerly Sound Engineer, Universal Pictures Corp.



## SHOOTING EARTH'S CURVATURE

(Continued from Page 9)

In continuing research work on screens and on emulsions sensitive to red and infra-red rays, one will be able maybe under certain conditions to obtain aerial photos through light veils of fog or mist of objects very little visible on the ground. One of the peculiarities of this technique lately carried on is that the plate registers images completely hidden to the eye by the blue mist characteristic of long distances. Usually aerial views are limited to a distance of 40 to 55 miles. One obtains now photos of four times that distance.

In a remarkable picture taken recently from a great distance by Capt. A. W. Stevens, one can see Mt. Rainier, photographed from the Mt. of Three Sisters, a distance of 230 miles. This record was exceeded last January by the same specialist a distance of 331 miles, in a view of Mt. Shasta, taken from eight miles south of Salinas, California, and at an altitude of 21,000 feet. The shutter was worked approximately 60 miles from the point where the mountain ceases to be visible to the eye. For this reason the camera was pointed with the aid of an oriented map at Mt. Diablo, serving as a landmark. In this photo, if the curvature of the earth did not limit the view, one could have seen a surface of 41,800 square miles. The land visible in that photo is estimated 11,000 square miles.

### EMULSIONS

The research laboratories of the Eastman Kodak Co. were studying the possibility of increasing the sensitivity of photographic emulsion to other radiations than the blue and violet. It realized accidentally an emulsion showing a sensitivity to radiations of wave lengths between 0,760 millimicrons to 0,800 millimicrons, and also fast enough to be exposed in normal light conditions by an exposure of 1/20 at F:4.5. This emulsion, sensitive to red and infra-red, is the same as used by astronomers, only it has to be kept on ice until loaded into the magazines, and developed right after exposure. The life of these plates is not over five days. Many tests have been unsuccessful on account of the loss of sensitivity of the plates.

There is as yet no market for such plates, but a few sizes have been coated with this emulsion, which is still in the experimental stage. It allows an exposure of 1/25; development is as usual, only the time is doubled. This emulsion has to be used with special filters. Any of the red filters can be used. The one used for the illustration of this article was an 89-A of Wratten, which is made by the Eastman Kodak Co. The purpose of this filter is to cut the haze and to clarify the contours of objects hidden by the haze.

## ANENT THE MICROPHONE

(Continued from Page 19)

current. This gives the dynamic transmitter all the advantages of the ribbon microphone, such as light weight, compactness, and smallness, except that the directional effect secured with the ribbon microphone is not present.

The factor that does more than any other to encourage the use of the dynamic microphone is that it is not affected by changes of atmospheric pressure nor by moisture, as is the condenser microphone. Condenser microphones will not operate satisfactorily at high altitudes without alteration, due to the low atmospheric pressure, and so the dynamic microphone is employed almost exclusively for high altitude recording, such as encountered in the mountains or in airplanes.

The single disadvantage of the dynamic microphone is that mechanically it is difficult to produce a moving coil which has sufficiently low mass so that its inertia will not suppress the higher musical frequencies. The lighter the diaphragm, of course, the more readily it will vibrate at high frequencies; but when a moving coil, which even with the most skillful mechanical construction has a definite weight, is attached to the diaphragm, the diaphragm will not respond readily to those higher frequencies.

This slight inertia of the moving coil causes the transmitter to respond more readily to the lower frequencies, resulting in a slight over-emphasis of those frequencies. The effect of this characteristic is to give the quality of sound recorded with the dynamic microphone a slightly boomy quality. This deepness of tone, if it be called such, of the dynamic transmitter is not particularly noticeable in speech, but it is plainly evident in recorded music. By combining a condenser microphone and a dynamic microphone in recording music, a very pleasing effect may be obtained.

## INTRODUCING MR. FELSTEAD

With this issue of THE INTERNATIONAL PHOTOGRAPHER Mr. Charles Felstead, of Hollywood, joins our staff as an associate editor.

He will specialize in sound as it applies to cinematography, but will serve also in general lines of technical editorial work.

His record is enviable, as will be observed from the data herewith following, and he is most cordially welcomed by the entire staff.

Mr. Felstead's major work will be a series of twelve articles which will constitute an exhaustive study of sound recording and sound equipment, and students who are interested in this subject will do well to miss none of these.

A brief sketch of Mr. Felstead follows:

In charge of the construction and operation of limited commercial radio stations KDBG, KFOI and KZY at the Thos. H. Ince Studio, 1923-24; attended University of Southern California, 1924-27; majoring in journalism and electrical engineering; assistant to chief engineer, Gilfillan Radio Corporation, 1928; supervising construction and installation of radio stations KGHV and KGHW at the Universal Pictures Corporation, 1928; sound engineer, Universal Pictures Corporation, 1928 to 1933; union member since 1928, belonging originally to Locals No. 37 and No. 40, and a member of Local 695 since its organization; technical writer on radio and motion picture sound recording engineering for the past ten years with more than two hundred published articles. Now employed as a free lance professional writer. A pioneer in radio in Los Angeles, beginning as an operator in 1915, and holding a commercial radio license almost without interruption since that date. Special writer for the National Radio Institute; member Society of Motion Picture Engineers and Institute of Radio Engineers; honorary member National Advisory Council of the American Radio Association; lieutenant, 977th (AA) CA-Reserve, Communications Officer, 1st Battalion.

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# NEWSREELERS' SCRAP BOOK

By FRED FELBINGER, Chicago

To the east of proud old Michigan Avenue, in Chicago, a new magic world has come into being. . . . A Century of Progress . . . The World's Fair . . . It's a symphony of wonders to the visitor . . . Unique architecture aspiring to the skies . . . and at night a melody of color . . . all the marvels and the romance of the world blended into the modern spectacle . . . The World's Fair . . . Daily hundreds of thousands make the pilgrimage, to be conquered by the glamour of Modern Progress . . . and in that happy holiday army of tourists passes an unseen army of tired Knights of the Celluloid, the 666 Newsreelers . . . They've been at it night and day . . . burning up miles and miles of the old Super-sensitive . . . it's the heaviest grind that has hit that weather-beaten gang from the Windy Village . . . they're popping fast over at the Fair now for the gang! . . . Come along, watch the old guard with the biggest headache ever handed them from the work angle . . . Here's an assignment that's going to last five months for them . . . a new yarn busting every few minutes . . . all in the Fair Grounds . . . Here's Jack Barnett and Charlie Geis batting out a little feature story on the first wedding in the Midget Village . . . Look up there, the west tower of the Skyride . . . What are those two specks at the tip of it . . . 600 feet up in space! . . . Why, no specks at all, just Eddie Morrison and Sheik Lippert dangling from an eye-beam, exercising the hand cameras on a few thrill angles to chill movie audiences into what a spectacle the show is looking down from the highest point in town . . . There's Tony Caputo and his dial twister, Ralph Saunders, taking in the "Streets of Paris" . . . with their equipment, of course . . . Quaint old "Belgian Village" . . . with the native folk dances . . . that's Emilio Montemuro perched up on the balcony making impressions on celluloid for posterity . . . Look at those two boys trying to chauffeur trucks through that sea of humanity . . . it's just Wayman Robertson with the Paramount truck and Phil Gleason, behind the wheel for Fox,

trying to edge down to the other end of the park for another setup . . . Why there's old Herford Tynes Cowl-ing over there taking in the Fair with his Eymo . . . Six P. M. now . . . no wonder Martin Barnett is hot-footing it for the 'phone booth . . . Martin's a married man now . . . gotta call up the little woman and explain that he just simply won't be able to make it for dinner tonight . . . Floyd Traynham is just dashing for the gates to ship in his stuff on a little feature he has battled out . . . and now the gang is ankl-ing over to the opening of "Hollywood at the Fair" . . . this is supposed to be the movie exhibit at the Fair . . . There's Charlie David up on a parallel . . . Inkie's are blazing from all directions . . . just like a genuine Hollywood premiere . . . Charlie's the official cameraman at the Hollywood exhibit . . . Wallie Hotz is dial twister in the same park . . . Billy Strafford, the 666 helmsman, is cooling off with a stein of 3.2 . . . but his dogs are not so cool . . . Billy makes the round trip almost daily through the park . . . and with the big thermometer in the center of the grounds reading 100 doesn't help the puppies any, complains Billy . . . inside of "Hollywood" you spot a couple of news-reelers who have grown desks and white collars . . . Charlie Ford, of Universal, has the missus out tonight . . . and Norman Alley, one-time Eymo genius, but lately Mr. Alley, Picture Editor for a local sheet, is sporting a white suit . . . mebbe he'll be wearing a cane next . . . providing the weight guesser muffs him by three pounds . . . Around midnite drop over to the "Streets of Paris" . . . watch the old film foggers draw up in rickshaws . . . just sailors on a day off . . . It's the World's Fair . . . night and day . . . the old gang of Newsreelers are making it . . . sometimes a mammoth headache to them . . . story after story . . . sometimes a lot of play . . . but it's the show of shows . . . worth seeing . . . worth crossing the continent for . . . Those 666 Newsreelers won't admit it . . . but it's colossal.

\* \*

SHORT ENDS . . . Got an invite from Charlie Ford t'other day to drop up and gaze at a preview of his brain child, "Thrills of the World!" . . . it's a two-reeler showing his shock troops in action . . . News-reelers recording all the goose-flesh events of the past few years . . . it's one of the first real send-offs the news-reeler has got . . . sort of going to give audiences a look

(Continued on Page 46)

## ROY DAVIDGE FILM LABORATORIES

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Movietone sharpshooters set up to photograph New York's Easter parade in front of St. Patrick's.

# NEWSREEL WORLD

By RAY FERNSTROM

This paper has a large sale and issues ONCE A WEEK to an ever growing circulation.

Movie theaters here have to be run especially for the local customs and habits. With such a beautiful city and many scenic walks it is not unexpected that the Stockholmer takes an evening walk from habit. This he does after a hearty meal of substantial Swedish food and the ever present Akvavit or SNAPPS which is a grand appetizer. Hence the movie houses are closed until he has taken the evening promenade.

Dinner is generally eaten at five thirty and lasts until six thirty. His hike lasts usually for half an hour. He is then ready for a rest and relaxation. Picture performances begin at seven and second shows at nine. All seats are reserved and ordered by telephone. Telephones cost very little and are owned by the State, as are water power companies, railroads, cigar companies, liquor stores and many others. American movies are very popular but the added Swedish titles distract an American here as he sits and listens to a performance.

Programs are sold in their entirety so that all shorts get a rather poor break, yet newsreels are among the most popular forms of movie. This makes me think that Stockholm is a good place to try out a NEWSREEL Theater, if the "offstage" were in Swedish.

The climate here this summer is as nearly ideal as man could desire and photographic conditions ideal. Great big, fat, round, solid clouds every day and daylight until eleven at night.

My friend of olden days, Bertil Norberg, with whom I live at Tegnerslunden 4, Stockholm, has the international distinction of being the only press photographer specially appointed by H. M. King Gustaf as Court Photographer to his Royal Majesty. Bert is now called Hovfotografen, for everyone has a title. Here I am always referred to as Filmfotografen Herr Fernstrom, it being very impolite to address anyone without his title until very close and long friendship. The ceremony of dropping titles and calling each other YOU is always performed over a glass of snaps—potato alcohol. The older person takes the first step and then, glasses are lifted, emptied . . . followed by grave and hearty handshakes and immediate use of the free YOU, or in Swedish DU. So far in ten days I have enjoyed the ceremony of laying aside two titles.

To get back to the subject of movies in general I find that some of our stars enjoy great popularity, but they feel here that Clark Gable shows his dimples too much. Janet Gaynor, Jeanette MacDonald and Chester Morris are extremely well liked. Our American photography is recognized as superior and always remarked upon. Just let a foreigner try to break into the exclusive studios for a job. They feel that we have too many expectations in every regard and demand too high salaries, but why shouldn't we?

THE INTERNATIONAL PHOTOGRAPHER is on sale here in the great N K, the Nordiska Kompaniet, the largest department store in the North, where every language under the sun is spoken by special interpreters and guides. Our great magazine enjoys a healthy sale among people here who wish to keep up with Hollywood and our Movie World.

Sweden is a virgin land for film talent scouts. Her women are among the most beautiful I have ever seen. I enclose herewith but one of many charming girls who  
(Turn to Page 45)

Stockholm Sweden, to my way of thinking is the most nearly perfect city to live in, of all the places this newsreel cameraman has ever seen. Here they have servants at \$20.00 a month, boatlandings at your front door and Chevrolets with fine, strong comfortable custombuilt Swedish bodies at very little more than our American prices. For you fellows who like food, this city of 600,000 people offers a different place to lunch every day for a year. And such FOOD! Bruno Lessing can boast of the continental taste and eats, but I herewith go on record as placing Swedish food above all other.

This is my third visit here in eight years, and the modern city has all conveniences desired by us Americans plus a few more that we will soon see and learn about.

In the last few years the picture studios of Sweden have increased in both numbers and the amount of pictures released. Strange as it seems they make no pictures in English, only Swedish, French and German. These pictures practically always MAKE MONEY, so there is little we can show them. We may feel that our camera and sound equipment is superior, but the high cost of American workmanship has no doubt kept such perfected material out of reach of these people.

The Swedish Aga-Baltic sound recording system is very reasonably priced and remarkably effective. Their cameras are mostly DeBries and very light and quiet. The new Super Parvo of this manufacture is really a remarkable box, and I note by the present issue of our valued INTERNATIONAL PHOTOGRAPHER that this camera is now advertised for the American trade.

I have one of their silent outfits with me, on an Akeley tripod, constituting what I claim to be the best and lightest silent camera for all round newsreel work. My camera was entirely rebuilt in the excellent ART-REEVES shop back home in Hollywood. We also added full studio equipment of matte box and filter holders. My filters are all made especially for this camera by our filter expert Harrison.

I have come to the conclusion that two filters no one can work without under all travel conditions and still get excellent results, are those good old friends the AERO 2 and the 23A. I have been using these two alone so far on Eastman Super Sensitive, and see no reason for any other filters yet. If you will watch UNIVERSAL NEWSREEL you will see the results of my use of these filters and this negative with the delightful DeBRIE.

Sweden has many fan magazines of all sizes, prices and classes, but one of them, the FILMJOURNAL, gives the best indication of the Swedish love for movies.



# JUNIOR MOTION PICTURE CAMERA NOTES

By GEORGE J. LANCASTER

## B. & H. MONTHLY SHOW

With an exceptional attendance of sixteen millimeter enthusiasts, the Bell & Howell movie show under the direction of J. A. Dubray, Western District Manager, was held in the auditorium of the big camera firm at 716 North La Brea Avenue, Hollywood, July 21. General criticisms of each movie subject screened was appreciated by those who brought their films for the evening's entertainment. It was evident that in a great many cases the camera operator "pammed" too fast, spoiling the otherwise good reel.

A semi-professional picture filmed with a 70-D FILMO by the L. A. Department of Playgrounds and Recreations, was shown.

J. H. Brown, of Beverly Hills, showed his ability in composition and general make-up in his film that had been photographed in the Hot Springs reservation on the Fiji Islands.

The recent 1933 National Air Derby held here was a thrilling subject in its entirety, photographed on a 70-D model camera by C. E. Brochett.

Burton Holmes' travelogue of the Chicago World's Fair closed the evening's program. Many of the 16 M.M. fans went home with new ideas and renewed hopes.

**Question:** Where can I obtain information about the making of newsreel subjects?

**Answer:** There is a book published with the title, "Cash from Your Camera," by Snyder and Barleben. You can also obtain ideas from "Free-lance Journalism," by Mallinson, and the "Complete Press Photographer," by Bell. These books will help you.

**Question:** Is it possible to make Kodacolor films indoors with artificial light?

**Answer:** Yes, providing you have enough illumination. You should have enough light to stop the lens down to f:8 when using regular black and white film; then there will be sufficient light to make Kodacolor films.

**Question:** Can "still" enlargements be made from a frame of movie film?

**Answer:** Yes, there are several good devices on the market which will permit the enlarging of movie film. Be careful not to attempt too great a magnification, because the grain will be enlarged with the image, and be careful not to select scratched film.

**Question:** Several scenes in a recently exposed reel of film show white streaks down the center. What causes that?

**Answer:** Probably a ray of sun-light is striking the lens from the side; in other cases a strong diffused light from the side will cause a general light fog over the entire frame and will degrade the tone values of the picture. Always use a sunshade and your pictures will be greatly improved.

**Question:** What does U. S. mean on some lens markings?

**Answer:** U. S. stands for Uniform System. Where the numbers are in direct proportion to the exposure times the lens markings are abbreviated U. S. Stop 8 and stop 16 have one to two relations so that 1/125th



Clark Gable indulges in his favorite hobby, personal movie-making, and is using his Bell & Howell Filmo movie camera to "shoot" Helen Hayes, with whom he appeared in the Metro-Goldwyn-Mayer picture "The White Sister." Both Miss Hayes and Mr. Gable have become enthusiastic amateur movie photographers since living in Hollywood.

on 16 would need 1/50th at 16 in the f: system which is generally used, the exposures are in relation to the squares of the f numbers.

**Question:** Can I obtain a very short focus lens for my 16 M/M. so as to get objects nearby which are too wide for the film?

**Answer:** Short focus lenses shorter than 25 M/M have been made from time to time, down to 20 M/M. There are some interesting samples made with a new Hypar of 15 M/M focal length placed on the market by the C. P. Goerz American Optical Co. The ordinary lens equipments on regular movies have angles about

(Turn to Page 38)

## New H.C.E. Combination Sunshade - Filter Holder



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WHAT'S WHAT!

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CAMERACRAFT  
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## Saturday Evening Post Pays Tribute To Photographers

More years ago than we care to admit, and long before we had traveled west any further than Chicago; about the time we began making our living in a branch of the motion picture industry, we remember with what great interest we read the first inside stories about production in Hollywood. These pen pictures were drawn for the world by Rob Wagner (now picture editor of Liberty Magazine), and periodically appeared in the Saturday Evening Post.

Since then this latter publication has presented, from time to time, other stories from the pen of Mr. Wagner, and also from other authors of national and international reputation. We have read all about the tricks of the trade; intimate stories of the stars; of directors; of writers; producers; but we believe the Saturday Evening Post nor any other national periodical has ever previously devoted feature editorial space *exclusively* to the cameramen of Hollywood.

It remained for Palma Wayne to write the first great story of the "Aces of the Camera," which appears in the Post, issue of July 22nd. Copyright restrictions prohibit reproduction or reprint of any part of this story. It is intelligently, interestingly, truthfully and graphically presented. It is a revelation to many members of the cameracraft. It is bound to impress the producers themselves, and every person who makes his living in any branch of our industry. Also it will make far reaching and favorable appeal to the box office public. It will increase the world's respect for the cameraman and his importance to this, the largest branch of the entertainment business.

In recent years it has been the aim and the purpose of individual and organized cameramen to obtain public credit for their achievements.

Not so many months ago at the annual installation of officers of the American Society of Cinematographers, President John Arnold (of the A. S. C.) in his speech on policy and procedure pledged to the assembled cameramen the desire and intention of the A. S. C. toward obtaining proper recognition from the critics, newspaper and magazine writers, throughout the world. At this meeting Charles J. Ver Halen, business manager of the A. S. C., and editor of the American Cinematographer, was instructed by President Arnold to extend the Society's campaign with renewed effort and encouragement.

We have kept closely in touch with the progress of this campaign, and on January first of this year we inaugurated a press clipping service for cameramen, whereby we have received from our home office in New York and from our Chicago branch newspaper clippings on the reviews of all pictures opening and playing in eastern cities.

Generally these critiques have expressed opinions regarding the box office values of the pictures; they have praised or condemned the writers, directors and actors; but too seldom have they even credited or mentioned the cameramen.

Exceptions have been made where in the opinion of the writers the cameramen contributed outstanding achievements to the production. However, as

## UNIVERSAL

ARTHUR EDESON continues in production on that very intricate photographic assignment, "The Invisible Man," which is being directed by James Whale. King Gray rides the perambulator—while Jack Egan changes focus, etc.

CHARLES STUMAR is busy placing the lights on another picture here. This one is "Saturday's Millions," a football story. We saw some of the U. S. C. football players on the set so Charley should have some real inside information for the coming games. It won't be long now. Edward Sedgwick is the director and Will Chine is operating the camera. Johnny Martin holds down the assistant's job very nicely too.

GEORGE ROBINSON was the unnamed photographer referred to in the Saturday Evening Post story, "The Well Dressed Man in Grey." George is finishing another of those hilariously funny ZaZu Pitts-Slim Summerville features directed by Eddie Buzzell, titled "Love Honor and O'Baby." The operative cameraman is Jimmy Drought and Lloyd Ward is assisting.

MERRIT GERSTAD continues in production with John M. Stahl directing "Only Yesterday." Merrit is turning in a very nice photographic job as usual. His crew comprises Al Jones, at second, Paul Hill and Ross Hoffman assistants.

TONY GAUDIO has completed an excellent piece of camera work on "Lilies of Broadway," directed by Mr. Dupont. Studio officials here are high in their praise of Tony's latest effort. Dick Fryer was the man on the camera and Bill Dodds the assistant.

JOHNNY HICKSON and BILL SICKNER have completed their serial "Gordon of Ghost City," which Ray Taylor directed. The second cameraman was Howard Oswald. The assistants were: Buddy Weiler, Carl Meister, Charles Crane and Benny Traiton.

LEN POWERS has completed several more comedies for Warren Doane and at the moment is ready to start another one—that is, if his sprained ankle will permit it. He swears it happened while working in the garden. James Horn naturally was the director and the assistant cameraman was Walter Williams.

## McCLUNG RESUMES AT U. A.

HUGH McCLUNG, after too long a vacation, returns to his former position of laboratory technician for U. A. With the added production of Twentieth Century Pictures at United Artists, Mac will be kept plenty busy when Sam Goldwyn swings into action.

stated, this has been the exception rather than the rule.

We hope and we believe that the Saturday Evening Post story referred to will have a very definite psychological effect upon these writers, and that henceforth their critiques will at least identify the cameraman who is responsible for the photography.

In conclusion of the Saturday Evening Post story we are gratified to note the highly complimentary reference to the introduction of Super-sensitive Panchromatic negative which, as is known to the entire cameracraft, was introduced by Eastman Kodak Company and J. E. Brulatour, Inc., in February of 1931.

## PARAMOUNT

HENRY SHARP, who did such good work on the Charles Rogers pictures, is now shooting the Four Marx Brothers (when he can find them). The picture is directed by Leo McCarey. Otto Pierce and Freddy Mayer are keeping in trim showing the pan handle around. Art Lane and Neil Burger do the assisting.

CHARLEY LANG continues on the Maurice Chevalier picture, "The Way To Love," and is getting along right well. We enjoyed Charley's crack about what makes an ace cameraman an ace. Bob Pittack and Cliff Shipper, as usual, are Charley's photographic associates.

VIC MILNER, who did such a gorgeous job on "Song of Songs" with Marlene Dietrich, is shooting "Design For Living," that highly sophisticated comedy directed by Ernst Lubitsch. Vic has Bill Mellor operating the camera, and Guy Roe as assistant. These two boys seem to have a fairly steady job with Mr. Milner.

The studio officials liked THEODOR SPARKUHL'S work on his first picture so well that they immediately signed him to a long term contract. Sparkuhl is now in production on his second picture, "Too Much Harmony." The picture is directed by Eddie Sutherland and stars Bing Crosby and Jack Oakie. Frank Titus, Buddy Williams, Francis Burgess and Eddie Adams, make up a very efficient staff for Sparkuhl.

MILT KRASNER is in Pendleton, Oregon, making exterior scenes for "Golden Harvest." Charley Rogers' epic of the wheat fields. Ralph Murphy is directing. "Golden Harvest" is Kraser's fourth production with Mr. Rogers. Need we say more? Harry Hallenberger, Lloyd Ahearn and Irving Glassman make up the camera crew on the trip with Milt. And a very nice crew too, if you ask us.

AL GILKS finished "Glory Command" at RKO and has been assigned to "Captain Jericho" at this studio. This will be the initial directorial effort of McNutt and Jones, the famous writing pair.

GORDON and DEV JENNINGS, those two little fellas, have been doing splendid work on their miniature and trick effect work, which does so much to add production value to the Paramount pictures. The double exposure work in "Midnite Club" was especially well done.

FARCIOT EDOUARD, in charge of the transparency process here, has sent Dewey Wrigley, one of his ace cameramen, to Baton Rouge, Louisiana, to make background shots for "White Woman," a forthcoming Paramount production. Farciot has been doing some very interesting work in "Design for Living," and other Paramount productions.

## M. G. M.

JIMMIE HOWE, who made so many fine pictures at Fox, with Bill Howard, is photographing "Beauty," directed by Boleslavsky. Jimmie says he's having a swell time and M. G. M. is a great lot. Dick Wade is Jimmie's second cameraman, and Wilbur Bradley does the assisting.

CHARLIE CLARKE, another older member from the Fox lot, has been doing nicely here, thank you. He has been assigned to the new Tarzan picture which will star Johnny Weissmuller. Charlie is a quiet, efficient workman and artist, respected for his unflinching calm and good temper.

NORBERT BRODINE is back on the lot, having completed "Deluge" for Sam Bischoff at Tiffany. Norbert is photographing "The Late Christopher Bean," being directed by Sam Wood.

OLLIE MARSH continues on "Dancing Lady," the Joan Crawford picture being directed by Bob Leonard. (Yes, es, Eddie Fitzgerald is the second cameraman and Kymé Meade does the work.)

HAL ROSSON has finished produc-

(Continued on Page 45)

## RKO

HENRY GERRARD is top dog of his previous photographic assignments on that popular story "I'm No Angel," which is being directed by George Cukor, who, with Joan Hepburn, Joan Bennett, Frank and Paul Lukas all vouch for the statement. Bob De Grasse operates camera and George Diskant is doing the thousand and one tasks assistant is called on to do.

DAVE ABEL must have climbed on his first RKO picture because immediately upon completion of "After Romance," he was assigned "Ann Vickers," in which John Wells is directing Irene Dunn, Frank Oliver, Walter Huston, Bruce and Conrad Nagel. The opera cameraman is Joe Biroc, and Jim handles the assisting job.

NICK MUSURACA has been busy month doing all the studio work on Al Gilks' Annapolis picture "Command," and also shot several comedies. Associated with Nick is "Musicomedy No. 2," which is being directed were Second Command Harry Wild and Eddie Pyle, a tennis player, and Willard (Nick Barth and Charlie Burke, assistants. The "Clark and McCullough" Nick had Second Cameraman Harry Wild and Eddie Henderson, film Barth and Bill Clothier were assistants.

ROY HUNT and his assistants Davol, completed their work in Janeiro, S. A., and flew to Miami, for additional shots for the coming Dolores del Rio picture, "Fling Down to Rio."

JACK MacKENZIE finished up added sequences on his last picture "The Doctor," with Lionel Barrymore and Dorothy Jordan, and after the golf games, which he reports better than on his last exhibition in Narrator, he returned to the studio photographed a Brock comedienne and Washington, which former cameraman George Stevens directed. The operative cameramen were Eddie I. Jeff Gibbons, glad to see his assistants were Charley B. and Harold Wellman.

CHARLES—Commodore—RICHARD through the aid of Western Postal Telegraph and U. S. Coast Guard, was located at Catalina yacht and returned to the studio to shoot the Constance Bennett picture "Without Glory." He naturally associated with him that very first second cameraman, Frank Redn, and likewise, Jack Cooney, assistant.

VERNE WALKER, head of the Trick and Process Department, working day and night on the numerous scenes he is called upon to do. He has Roy Hunt, as above mentioned shooting background shots in Mexico, America and Miami, Florida. Perry has been added to Walker's department and he is shooting all the miniatures at the Pathe lot, which has two complete stages tied up.

## POCKET

LEO TOVER draws one of his assignments of the month. He is shooting Mac West in "I'm No Angel," which is being directed by Wesley Ruggles, favorite director. With the tremendous popularity of Mac West's previous picture, "She Done Him Wrong," the future of the industry will naturally be the next production, and of course the cameraman will also have additional attention focused upon him.

Tover, though young in years, is experienced, having received his first training with Ollie Marsh at the 48th Street Studios in New York where Ollie was shooting Norma and Clarence Talmadge. From there he went to



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WHO'S WHO!

## FOX

NI PALMER is well into pro-  
a new Charlie Chan opus  
dicted by McFadden. Palmer  
Anderson steering the camera  
story Little and Robert Mack  
ts.

LANCK returned from a short  
and leaped into production on  
version of "Woman" being  
by Reinhardt. Bob has been  
right well at Fox for the past  
Planck is seconded by Art  
l assisted by Roger Sherman  
bovitz.

LOHR is in production with  
West Woman in Paris." Monte  
recting. Bill (Loop) Loop  
in Irving Rosenberg are Mohr's  
and left bowers, while Bob Sur-  
aul Lockwood hold the slates  
d focus.

MILLER has started pro-  
with Dave Butler on "My  
el." Last month Artie made a  
th Tinning and the month be-  
neted one with McFadden. One  
is a good average. The Fox  
he must like Artie's work.  
hmitz and Joe La Shalle peer  
e cameras and Bill Abbot and  
Cins are the assistants.

ARMES has finished work on  
Madness," the latest Bly-  
production starring Spencer Tracy  
ayWray. Lee will photograph  
no production before he takes  
ist directional assignment for  
Soley (Beau Brummel) Cortez  
ides the camera for Lee, and  
uze and Lou Kunkel assist.  
le crew, too, says Mr. Garmes.  
E SCHNEIDERMAN fin-  
uction with Jack Ford on  
ogers picture, "Life's Worth  
," and is standing by for any  
ssments that may turn up.

AMMERAS, the projection  
rol expert, goes to Virginia  
Key King to make background  
foming's forthcoming production.  
er will be accompanied by a  
tecamera staff, which has not  
assied as we go to press.

## LE ROACH STUDIOS

LOYD and HAP DEPEW.  
og's favorite cameramen, have  
s by as the—(write your  
during the past month, photo-  
ictures for the Laurel-Hardy,  
Key and Our Gang series of pic-  
ow these boys can turn them  
At very well photographed too.

s space at RKO.

AYLOR is working overtime  
ion shots on probably the  
rangement in portable pro-  
paratus which was designed  
Lynn Dunn is very  
ne optical printer getting out  
ne gags for unusual wipe-offs  
are seen in "Melody Cruise"  
he RKO pictures.

ate of thanks to Eglinton's ef-  
assants, Ted Winchester, Ledg-  
Emmett Bergholz and Joe  
their ever courteous co-opera-

## INTERVIEWS

Long Island Studios, where  
se assistant to second, and  
cameraman.

duction was discontinued in  
came to California, and pho-  
several pictures for Herbert  
in the United Artists Studios  
Studio was the next stop.  
ture there was with Wesley  
"Street Girl," from which  
association that still continues.  
ong string of pictures which  
at in the Richard Dix produc-  
Great Jasper," Tover moved  
Ti. Here he was again asso-  
Ruggles in the production  
Humor," currently being  
ne theatres.

## WARNER-FIRST NATIONAL

BARNEY (CHICK) MCGILL has  
finished another fine photographic  
job on "Bureau of Missing Persons,"  
and after a few days rest started another  
one, "The Kennel Murder Case," which  
is being directed by Michael Curtiz.  
William Powell and Mary Astor are the  
principal players. Ken Green con-  
tinues to handle the camera, while Bill  
Whitley is the boy who does the assist-  
ing job.

SID HICKOX is a smart boy. Dur-  
ing the Warner shutdown he photo-  
graphed several features for Monogram,  
but when Ruth Chatterton was ready  
to start she requested Sid to shoot her  
current picture, "Female," which Wil-  
liam Dieterle is directing. And it is  
only natural that we find Tommy Bran-  
nigan operating the camera. Wesley  
Anderson is the assistant, and among  
other things, keeps pretty well occupied  
making up pan glasses for Sid to break  
or lose.

JIMMIE VAN TREES has finished  
"I Loved a Woman," the picture he  
shot for Al Green in which Eddie Rob-  
inson starred. And now James reports  
to Twentieth Century, with whom he  
has signed a contract, and his first pic-  
ture is scheduled to be "Broadway  
Through a Keyhole." For a long time  
we have seen Lou Jennings associated  
with Van Trees as second cameraman  
and no doubt we will continue to see  
him at United Artists; also the same  
assistant, Jimmie, Jr., will probably be  
holding the slates and what not.

SOL POLITO after years, it seems,  
on musicals, "42nd Street," "Gold Dig-  
gers of 1933," and more recent, "Foot-  
light Parade," is now on a big heavy  
drammer entitled, "The World Changes."  
Mervyn Le Roy directs Paul Muni in  
this one. It is only natural that Sol's  
shadow, Mike Joyce, would continue on  
as the operative cameraman—and, well—  
look who is the assistant—none other  
than Lou De Angelis.

We are very happy to see a new-  
comer to this lot and herewith extend  
our welcome and best wishes to LEON  
SHAMROY, who has been loaned to  
Warner Bros. during a lull in B. P.  
Schulberg Productions. Leon is photo-  
graphing a very colorful production,  
"Ever in My Heart," with Barbara  
Stanwyck. Archie Mayo is the direc-  
tor. The second man is Al Green.  
Carl Guthrie is the assistant.

ARTHUR TODD, the old sage of  
Westwood Village, finished "Wild Boys  
of the Road," and just to keep the ol-  
eye in practice (not that it is necessary)  
spent most of his spare time shooting  
via 16 M/M the antics of the heir to  
the Todd bankroll. Now Arthur is  
back in production again photographing  
"The House on 56th Street," which  
Robert Florey is directing. The same  
crew, Billy Schurr, second; Vernon  
Larson, assistant.

GEORGE BARNES is finishing the  
story unit of "Footlight Parade" which  
Lloyd Bacon directs. Warren Lynch  
who aided Lee Garmes so efficiently  
at Fox, is George's second. Jack Koff  
mann is the assistant.

JOHN SEITZ has been loaned by  
Fox to Warner Bros. to photograph the  
forthcoming Richard Barthelmess pic-  
ture.

FRED JACKMAN'S department is  
going at full speed. Rex Wimpy has re-  
turned from Chicago and now he is  
usy here with the regular staff: Hans  
Koenekamp, Bun Haskins, Fred Jack-  
man, Jr., Willard Van Enger, Charlie  
Boyle and Russ Collins.

## EDDIE CRONJAGER BACK

EDDIE CRONJAGER has returned  
to Hollywood from London and resumes  
his old spot at RKO, where he immedi-  
ately started his cameras on a new pro-  
duction.

# SUPER MINIATURE ASTOUNDS

## Ned Mann Achieves Triumph in "Deluge" Production

Importance of the genius of the camera  
technician has been advancing by leaps  
and bounds, particularly during the past  
three or four years.

Trick and Effect Departments are con-  
tributing vital punches to about ninety  
per cent of the feature productions of  
today.

Miniatures have played an important  
part, not only for their visual value, but  
in majority of instances for their eco-  
nomic importance to the producer.

A year has passed since we rolled  
across the Mojave Desert with Sam  
Bischoff en route to the High Sierras  
while he told us with great enthusiasm  
about his acquisition of the story,  
"Deluge."

Basically we agreed with Mr. Bis-  
choff that it offered great possibilities  
for a production. We further agreed  
with him when he stressed the point  
that its success or failure was largely  
dependent upon the achievement in ac-  
tion and photography of the miniatures  
which formed such an important part  
of the production.

Months were spent in preparation  
of the script and this completed, Mr.  
Bischoff made his first move on staff  
for production by calling back to Holly-  
wood from the east, where he was on  
vacation, Ned Mann, in whose hands  
was placed the entire responsibility for  
design, construction, operation and pho-  
tography of the miniatures.

The production has just been com-  
pleted, and the few who have been priv-  
ileged to see it are enthusiastic in their  
praise of Mr. Mann's achievement.

An interesting sidelight is Mann's  
own enthusiasm as expressed to us. "I  
have been identified with many splendid  
productions," he said, "and naturally I  
have learned something from every one  
of them. However, 'Deluge' is the  
first picture I have ever worked upon  
where I have been given full responsi-  
bility with relative authority. I can't  
say enough in praise of Messrs. Bischoff,  
Kelly and Saal in appreciation of what  
they have done for me. They gave me  
the script and told me what they hoped  
to accomplish, and then turned me loose  
with full authority to spend money  
where and when I thought it was ab-  
solutely necessary, and not once during  
the entire production did they or any  
other executive of the studio ever inter-  
fere with me. True, they at times gave  
me suggestions which were valuable, and  
I was allowed to work these out with-  
out restriction."

"This is probably one of the largest,  
and certainly the most intricate, job  
of miniature work ever done in any pro-  
duction."

"Principal specification was for an ex-  
act replica of the city of New York,  
its waterfront and downtown district.  
An earthquake and tidal wave bring-  
about complete destruction of the  
waterfront, ships, docks and the city  
itself, all with amazing reality."

"We spent as much money on the  
miniatures as the average program pic-  
ture costs. Following construction,  
weeks of preparation and testing were  
necessary, naturally, because the de-  
struction must occur in a matter of  
seconds, completely demolishing and de-  
stroying the structures and properties  
which we had taken months to build."

"For the earthquake effect on the  
skyscrapers in the downtown district  
we built a platform of approximately  
100 feet square, and this was cut into  
eight sections. Each of these sections  
was mounted on rollers upon separate  
undulating tracks, similar to a roller  
coaster structure. Springs were op-  
erated electrically to produce a desired ef-  
fect."

"We took no chances in missing any  
part of the action from any angle. When  
the time came for the actual photographic  
and sound recording of this part of the  
picture, I had eight cameras on the set.  
The motors were started on the cameras  
and on the platforms. Slight vibrations  
developed into severe jolts and shocks.  
Sections of the platform separated, open-  
ing large crevices in the earth's founda-  
tion. The entire platform moves to-  
ward the cameras. The buildings shake  
and crumble. The destruction was as  
dramatic as it was complete."

"It must be realized that everything  
had to hit the first time. Here was  
one scene on which there could be no  
retakes without ruinous expenditure of  
money because when the buildings and  
properties were demolished once, it natu-  
rally follows that a repetition would  
mean reconstruction of the entire set,  
which would take at least two months  
and which would call for the expendi-  
ture of many thousands of dollars."

Associated with Mr. Mann as chief  
photographer was Billy Williams, who  
deserves high credit for his intelligent  
work, and also Eddie Tiffany, head of  
the camera department of the K. B. S.  
Studio, who adjusted the movement of  
the cameras to operate at ten times  
normal speed. This was absolutely nec-  
essary in order to properly and con-  
vincingly produce the desired effect.

Production is the inaugural dramatic  
effort of Felix Feist, Jr., and dramatic  
sequences and dramatic cast action was  
photographed under the supervision of  
Norbert Brodine.

The following second cameramen and  
assistants were associated with Mr.  
Mann in the miniature department:

### SECOND CAMERAMEN

Jeff Gibbons	Harry Parsons
Vic Schuerich	Reggie Lyons
Carl Wester	Pierre Moles
Art Reed	Harry Davis
Ernie Smith	Fred Kaifer
Ernie Crockett	

### ASSISTANTS

Carl Guthrie	Bob Bessette
Leo Hughes	Bob Gough
John Tolmie	Leo Ward
John Echert	Dave Smith

## LEN ROOS RETURNS

LEN ROOS has just returned from  
an eight months' absence from our fair  
city. He was commissioned by Univer-  
sal to accompany Chester Bennett in  
charge of the expedition. Len is an  
old veteran world traveller, having been  
on several previous expeditions of this  
nature.

On this trip they worked in Singa-  
pore, Java, Sumatra and the Federated  
Malay States. One of the many inter-  
esting subjects photographed was a wed-  
ding ceremony which took place in a  
palace.

(Continued on Page 45)



## FILMO PROFESSIONAL AMATEUR

(Continued from Page 16)

curately as most professionals can (or could) crank. Therefore, for the amateur, who is not experienced in cranking the camera steadily and evenly, the governor control is very desirable because he merely cranks as fast as the governor will allow, with the assurance that the camera is operating at the exact speed it should be. When the motor is fitted, the governor is set at the speed desired and the motor likewise drives the camera at the predetermined setting. Incidentally, the motor shaft is equipped with a knob at the end to facilitate turning the camera over by hand for threading.

Now as to the magazine installation. It is to be expected that with the motor drive, even though the regular 100 ft. capacity is equal in picture length to 250 feet of 35 mm. film, this footage is inadequate for many purposes, such as the airplane use suggested above. Doubling this capacity gives the equivalent picture length of 500 feet of standard film, enough for practically all, if not all, of the work that ordinarily would be handled on 16 mm. film. Therefore, while 400 foot magazines could readily be made, they have not been put out as yet for this reason, apart from the fact that the facilities of the developing stations in various parts of the world may have to be modified to handle longer lengths of film. Also, as far as is known, 16 mm. reversal film is not yet available in 400 foot lengths.

In order to fit magazines to the Filmo camera, the back of the frame has to be cut open. Instead of cutting slits in the edge of the frame to slip the film through in threading, the back of the frame is cut out in the shape of the letter "U." This still allows the magazine to be changed at any time, irrespective of how many feet have been exposed, yet strengthens the frame more than the ordinary type of construction would allow. The magazine itself is ruggedly made of very light metal, is of the same design practically as the magazine used in the professional camera, and is equipped with the same type of light valves. When the camera door is closed, it operates the plunger in the magazine and opens the valves. As soon as the door latches are turned to open the door, the plunger is released, closing the valves and thereby protecting the film. This arrangement, of course, allows the film to have a free passage without risk of abrasion, scratches, static, or other difficulties. As will be seen from the illustration, the magazine is attached to the Filmo camera by means of the same type of screw as used in the professional camera. A suitable drive pulley is fitted to the pulley in order to operate the magazine take-up by means of a regular take-up belt.

With the magazine it is possible to back up the camera by reversing the hand crank to take up the entire 24 feet of film. Of course, when the hand crank is backed up, it winds up the main spring of the camera so that the limit of film that can be backed up is determined by the amount the spring is unwound.

The question is sometimes asked as to whether the operation of the equipment is interfered with if the motor or hand crank is to be used when the main spring is partly wound. The hand crank socket to which the motor drive is fitted is in the form of an over-running clutch, so that if the camera main spring is wound up it is not necessary to run the camera entirely down before attaching an external magazine, motor, or hand crank.

A very interesting adjunct now available for the Filmo camera is the gravity catch release. Just a little to the right and below the starting button is a small knurled disc. When this is pressed downward, it engages the gravity catch so that when the starting button is raised slowly, the gravity catch will operate and the camera will

continue to run. The camera must be set in this manner when the motor or hand crank is to be used. For certain types of single picture work, it is desired to tap the starting button with the assurance that only one frame will be exposed. If the camera is set at 16 or, preferably 8, speed, this can be done very readily. To prevent any possible chance of the gravity catch operating, the little knurled disc is moved to the "up" position, disengaging the catch entirely. Thus the operator at will can throw the catch in or out of use, as may be found desirable for the particular conditions confronting him.

The range finder unquestionably is the most striking attachment now available for Filmo cameras. This finder is of a precision never before available in such compact form. It is mounted as an integral part of the viewfinder and is equipped with a lever by which the range finder can be thrown in or out of operation. Incidentally it will be noticed in the illustration that the finder eyepiece is fitted with a little offset prism, so that the operator can look in at an angle and thereby avoid interference with the magazine. This particular method is used so that the front of the finder will be as close as possible to the photographic lens, thereby cutting the errors of parallax to a minimum. At the same time, those who have invested in the well-known focusing alignment gauge can still utilize that valuable accessory.

Therefore, when one looks through the eyepiece, one sees the subject in the regular way. By throwing the lever up into the "engage" position, one sees two images of the object. This double image is in the form of a double circle. The smaller image in the middle comes from the top window. The larger (outer) image comes from the bottom window. The arrangement is that when the lever is thrown up into the operating position, a split beam prism is placed in line with the eyepiece of the finder. The dial of the range finder is then turned until the two portions of the image align correctly. Incidentally, it is immaterial which way the dial is turned. The unit is designed so that the two images do not overlap completely, but are displaced slightly in the horizontal plane. This makes it very much easier to decide when the point of correct focus is obtained. For this purpose it is preferable to use horizontal lines in the subject.

The finder dial is calibrated 2', 2½', 3', 3½', 4', 5', 6', 7', 8', 10', 12', 15', 20', 30', 50', 100', and infinity. Due to the accuracy of its construction and, perhaps, in part due to the method of alignment, it is possible to differentiate a quarter of an inch at a distance of three feet, or a distance of an inch at ten feet. The range finder allows the proper distance to be determined at any time without stopping the camera so the lenses can be reset by scale as necessary. This range finder presents possibilities for the professional also, because it can be installed on the Eyemo camera, just as readily as the Filmo.

It is hoped that further features will be developed that will still further increase the flexibility of this apparatus.

Inasmuch as the camera can be used in the regular way for ordinary purposes, it is not necessary to carry the extra attachments except where special work is to be done. This is very desirable where the camera is to be taken on climbing jaunts, tours, etc.—where one doesn't want to be encumbered with more weight than absolutely necessary. At the same time, the extra units can be attached at a minute's notice whenever special work is contemplated. As stated before, the hand crank fitting adds no weight, so one always has this feature on hand. Therefore, a maximum of flexibility is available even when traveling light. In this respect the advanced amateur is right up with the professional.



## MORE ABOUT AUDIO DYNAMICS

By ROBERT LOTHAR KENDALL

President Kendall & Dasseville, Inc.

With the advent of dialogue motion pictures into the field of projected sound, some very interesting and highly important disclosures were made. It was for quite some years supposed that all sound waves, whether produced mechanically or originating from the human voice, were of one and the same form. This form was supposedly more or less in cloud-like formation—increasing, not only in volume, but also in amplitude as the distance from the sound source or projecting agent increased.

We do not wish to bore the reader with a multitude of theoretical and difficult-to-prove references, suffice it to say that scientists now freely admit the existence of varied-form projected sound waves. Proof also exists that each general form also has its sub-divisions, or deflections from the "parent wave."

To enumerate just a few of the more commonly known forms, we begin with the one most frequently encountered—the dialogue wave. It is now believed that a dialogue wave in its true and undistorted form is shaped like a rod. While no actual measurements have been possible, it is the consensus of opinion that the length varies from a fraction of an inch to many feet, the cross-sectional measurements being in proportionate accordance.

Giving credence to this statement lies in the fact that when one projects dialogue into a given area with a straight-line projecting agent, a definite sound foci is apparent, since only the "spill" serves the area immediately adjacent to the sound path, transversely forward of the projecting agent.

"How, then," one queries, "is the auditorium served?"

Under the standard formulae laid down by the major electricians, this is accomplished by deflection. Serving an auditorium thusly is known as "volume content" service.

This, we believe, is not altogether correct and has

far too many drawbacks. Suppose we analyze what takes place under such circumstances? In serving by deflection, transverse waves of three general forms are set into motion and are used to conduct the sound to the hearer's ears.

When we trace a longitudinal wave from its point of projection in an average theatre auditorium, we note that it does not follow the theoretical path to the rear of the structure, but takes a sharp upward curve, in most instances, within twenty feet of the projection screen. Then, it deflects into a series of semi-perpendicular and oblique-transverse waves; which in turn again deflect themselves into another series, gradually taking on horizontal-transverse proportions. This continues until complete dissipation has taken place.

The natural impulse would be to step up the fader to the point at which these unwanted transverse waves would be penetrated. Unfortunately, this only aggravates the conditions as outlined and has caused millions of dollars to be spent needlessly on absorption and other sound-trapping and controlling materials.

The reader can thus readily understand why serving an auditorium on an "area distribution" basis—which automatically eliminates the perpendicular—and oblique-transverse forms—is best suited for present day practice.

Research, experimental work and actual operation in theatre and other auditoriums of all sizes and types is now in its fourth year. The study and application of the service, known as "Audio-Dynamics," has gained a considerable foothold. According to contemporary scientific standards, this method of sound distribution seems to be the most logically-correct and it is quite possible that it will be generally accepted in the very near future.

### FAIRBANKS IN CHINA

It is reported that Douglas Fairbanks is organizing an expedition to make his next picture in China. Chuck Lewis, who has charge of production, is handling the preliminary negotiations.

### PROPS

(Continued from Page 10)

business on the next hundred pictures to be shot.

The title of the picture was "The Red Riders," the featured players being Helen Gibson, Leonard Clapham and Edward Burns. They also lent encouragement to the rising young producer by agreeing to share in the profits.

And when the third picture was finished Joe still had his original capital unimpaired.

Yes. The pictures were released and everybody was paid.

Can you beat that at six bits?

Just one thing more. Who knows how to make twelve horses out of three horses and five buckets of paint?

Joe Murphy.

You see, our prop-man was later making Westerns over at Riverside for Universal. The horses were taken there from Los Angeles and sometimes Director Henry McCrae of Universal would grab most of them for his own picture before Murphy could get 'em off to Riverside, and here the paint buckets came in handy.

Murphy would take to Riverside the horses left him by McCrae and, with a specially prepared water color paint, would change their colors as required—sorrel, gray, black, bay, roan, dun, calico, pinto, etc. The paint was easily washed off and the horses were unharmed. And this was the life of the prop-man in the early history making days of motion pictures.

### WAKE UP, CHARLIE!



Time you were "Shouldering Arms" again.



## YOUR TIE-UP WITH F. D. R.

Colonel Louis McHenry Howe, Secretary to President Roosevelt, has started a series of weekly broadcasts. He will be interviewed by Walter Trumbull, nationally famous newspaper correspondent, every Sunday evening at 10 P. M. (EDST) over WEA and a nationwide NBC network and weekly, thereafter, at the same time. These interviews will have Trumbull representing the citizenry of the country and Colonel Howe with the knowledge that his position gives him, frankly discussing the interesting problems confronting the nation and its citizens.

The radio audiences are asked to use Trumbull as their spokesman and urged to write him asking for answers to such questions as interest them, or concerning moves made in Washington, the purpose and probable result of which they do not clearly apprehend.

Since it will not be possible to answer every question, those received will be sorted and classified and the interview will be designed to cover subjects which appear to have the greatest interest or importance. At present the White House is receiving an average of 4,200 letters a day—over ten times as many as were averaged during the previous administration.

Colonel Howe, as Secretary to President Roosevelt, for the past 21 years may be depended upon to give frank, forthright replies to queries concerning the government. The discussion will be non-political. In simple language he will endeavor to clarify the problems and happenings of official Washington and how they affect the welfare of every man and woman in the country.

## A Wonderful Miniature



The highlight moment of the BKS production "Deluge," which depicts the results of the amazing technique of modern process photography. For further details see the Brulatour Bulletin in this issue.

## NEWSREELERS' TO GET A BREAK

A recent article in Motion Picture Herald by Fred Ayer reads: "The intrepid newsreel cameraman at last is going to 'get a break' on motion picture screens. Allyn Butterfield, editor of Universal newsreel, has assembled a two reel production titled 'The World's Greatest Thrills,' which portrays daring feats and exploits of cameramen in all parts of the world. The public, probably for the first time, will be given an opportunity to witness the actual hazards which at times confront the news cameraman.

"There are spectacular fires and rescues, hurricanes, auto and motorcycle races ending in disaster, a head-on locomotive wreck, air feats and some of the most spectacular air crashes ever seen on the screen. There are 26 separate sequences and according to Mr. Butterfield there is no question of exploitation for Universal or its newsreel.

"The picture is primarily entertainment and is in-

# MINIATURE CAMERA

## The 35 mm. Still Camera on the Set

By RALPH H. LINN

To camera enthusiasts in general, whether professional or amateur, the advent of the 35 mm. still outfit meant the acquisition of a new and delightful toy and to many it has remained just that.

But very early in the game there were several groups who immediately seized upon it as a decidedly practical and efficacious adjunct to their regular work. The uses to which the press photographer puts the little boxes in his "candid camera" activities need no comment. No lens-dodging celebrity was, any longer, safe anywhere—even in bed! And almost from the very outset not a few among the ranks of the professional cinematographers recognized the fact that a light, handy aide had come into being for quickly making test shots on the set.

Among the earliest of these was Jackson Rose, who, experimenting with his Leica strictly along the lines of his own specialty, speedily evolved a set of accessories adapted to professional requirements in the way of lens shades, filter-holders, etc., which enabled the miniature instrument to enter upon a field of activity not foreseen, it is safe to say, even by the manufacturers.

Using precisely the same emulsion he will use later, when expensive principals are doing their stuff before his twenty-four-frames-per-second Mitchell or Bell & Howell, the cameraman can shoot ten or twenty tests with various filters, lightings, and from as many angles as he chooses, all in a few minutes—and all without going through the time-consuming operation of lining up with the more bulky motion picture camera. And in another few minutes he can have the answer developed then and there. Much time and effort has been saved and from this test the cameraman knows exactly what to do and in the course of months of shooting, many dollars worth of film has been saved.

Farciot Edouart, head of the transparency department at Paramount, uses his 35 mm. outfit in selecting locations as well as for filter and light tests, while in preparing for transparency and other special shots he finds it most efficient.

"By using a fast soup and a quick-drying compound," he declares, "I can have an 8 x 10 or 11 x 14 print delivered back on the stage in from twelve to fifteen minutes from the time the shutter clicks, thereby enabling the director and whoever is lining up the shot to get a pre-view of the set-up, light values, etc."

And this includes developing, fixing, rinsing and drying both negative and print, so that the latter can even be mounted if desired—surely the last word in convenience, not to say luxury!

Numerous other examples might be cited, but Mr. Edouart's application of 35 mm. materials alone contains sufficient factual and suggestive matter to interest any cinematographer, director or art director not at present making use of them, while there might be more than one pregnant thought for the wardrobe and property departments contained therein.

tended as a tribute to the newsreel cameramen of all countries and companies," he says. "Wherever one finds a man risking his life in some sort of stunt or wherever human beings face danger, there you will find a cameraman, frequently staking his life, too, in order to get pictures of the event."

"The greater part of the picture is in sound, recorded on 'the scene of battle.' Graham McNamee, radio announcer and Universal's 'Talking Reporter,' provides the narrative."



## PAUL PERRY RETURNS

(Continued from Page 3)

### The Colonel Arrives

One day as we were setting out to shoot a parade of soldiers we began to shout to each other about photographing the scene. At the time a man who looked very much like a European was standing not far away in conversation with the Sultan. Our exchanges attracted the attention of the stranger, who immediately approached us with smiling display of dental equipment. He did not pause to introduce himself, but thrust out his hand in hearty greeting and said:

"Well, what do you know about this! I didn't know you fellows were Uncle Sam's boys until you began to talk. Thought you were Dutch! The English language sounds mighty good to me. I'm Theodore Roosevelt. If I can help any, let me know."

"Glad to meet you, Governor," we all spoke at once and immediately we became friends. Thus did the Colonel introduce himself.

The ex-Governor General of the Philippines was full of pep, like his father, and he immediately took hold of things. He arranged to parade and inspect the troops, which was a great help to us, and in many other ways boosted our game.

The Colonel and Mrs. Roosevelt were among the honor guests present, and it was a joyous event to meet them under such happy circumstances.

### Boro-Badur

Now everybody who visits Java must go to see the celebrated Buddhistic ruins of Boro-Badur, built many centuries ago in honor of that great World Teacher, the Blessed Lord Gautama, whom Sir Edwin Arnold called The Light of Asia.

These marvelous ruins are among the greatest of the world's wonders and it is said of them that when the Mohammedans attacked Java away back in the twilight of history, the Javanese were so devoted to their Buddha that they completely buried the temple and it was not until a century ago that this miracle of architecture was restored to the people who love it most. I got some good shots of it, herewith produced.

Our work in Java over, we returned to Singapore, whence Mr. Roos and Mr. Bennett started home via London, while I went to Shanghai to meet our old friend, Jack Smith, who has been for several months in Manila and Chinese ports.

### I Meet Old Friends

Here I met also Leon Britton, producer, and Sidney Lund, his sound man. They took me out to Chapei to see the studio where they are working. It was built and is operated by John Jensen, another old time Hollywood cameraman, who for years has sojourned in Shanghai.

Here, also, we met the celebrated comedy team, Bert Wheeler and Robert Woolsey, and on the day I sailed from Shanghai for home I met Bob Miller of 659, photographer attached to the S.S. President Hoover.

We all lunched and rickshawed together, and I reluctantly left the gang as you see them in the picture, and please note, Mr. Editor, a copy of The International Photographer in the hands of Mr. Woolsey.

### Handling Our Film

A great number of cameramen have asked me how we handled our film in the tropics. It is a very hard question to answer, inasmuch as all places are peculiar to their own conditions. For instance, when my brother Harry and I were in Morocco Algeria, and Tunisia we found that the conditions were practically the same as on our American deserts—while it was terribly hot and humid in the daytime at night the conditions were about the same as in Hollywood, cool and dry.

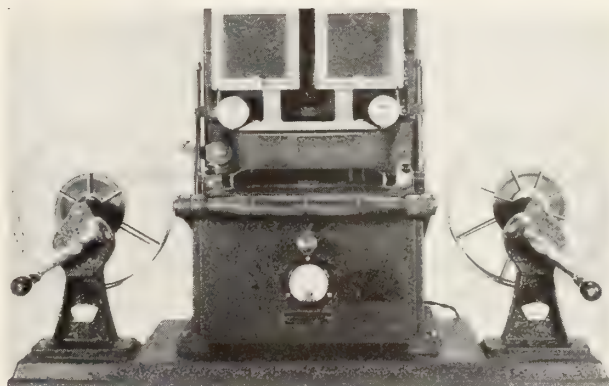
In Ceylon we had about the same conditions, but in Siam, Straits Settlements and the Dutch East Indies we had to unload every night and put our film in humidors containing calcium chloride for 24 hours, both exposed and unexposed film, with the paper in which the film was wrapped. After the paper and film were perfectly dry we would reload in cans, tape it up and cover the tape with melted tallow. This procedure prevented mildew and the film will remain in perfect condition for months. I might add that any cases with metal parts should be painted to prevent rusting and plenty of oil should be used on all metal parts of camera, also all metal parts of tripod.

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## EASTMAN ANNOUNCES IMPROVED INFRA-RED SENSITIVE PLATES

For several years photography by invisible infra-red radiation has received wide public attention through the newspapers and the scientific press, but until quite recently commercial photographers and advanced amateurs have been concerned only with photography by visible light. Photographic materials sensitive to visible light have amply met the requirements of these groups, even for distant landscapes—which were photographed with a panchromatic emulsion and a red filter for eliminating haze.

Plates sensitive to invisible infra-red light have been extremely useful to scientists, especially astronomers. Moreover, because this light penetrates through hazy atmospheres far better than visible light, such plates have been used successfully for photography at great distances. A mountain at a distance of 331 miles has been clearly recorded on such a plate.

Enterprising press photographers, hunting for unusual pictures, have used infra-red-sensitive plates within the past few months to make some remarkable distance views from New York's tallest buildings, showing clearly scenes that are never or practically never visible to the eye because of a blanket of obscuring haze.

Recent improvements in infra-red-sensitive plates, both in speed and in the character of their infra-red sensitivity, make them more practical for the use of photographers who wish to take advantage of the special results and the unusual effects they offer. This information is contained in a current announcement by the Eastman Kodak Company.

Photography at considerable distances is perhaps the widest present possible use of infra-red sensitive materials. They may also be used for fantastic night effects by daylight, or to produce a nearby landscape of unusual character. The blue sky photographs black while green foliage, which is a very strong reflector of infra-red, photographs a silvery white.

Photographs "in total darkness" are another trick possible with these plates. Deciphering of obscure documents is a practical use.

For several years the Kodak Research Laboratories have supplied plates for infra-red photography under the names "Eastman Extreme-red Sensitive" and "Eastman Infra-red Sensitive." Recent advances in the preparation of sensitizing dyes have made it possible to manufacture improved plates, and these plates are now standardized under the following designations:

"Eastman Infra-red Sensitive Plates, Type I-R,"

"Eastman Infra-red Sensitive Plates, Type I-P,"

"Eastman Infra-red Sensitive Plates, Type I-K."

The Type I-R plates are recommended for general infra-red photography, including landscape work, documentary photography, etc., and for the infra-red photography of non-luminous hot bodies, such as flatirons and furnaces. These plates permit the shortest possible exposures to be given.

The Type I-P plates are a somewhat faster variety of the plates previously sold as "Eastman Infra-red Sensitive." They are suitable for "photography in total darkness" (with a Wratten Filter Number 87 covering powerful tungsten lamps).

The Type I-K plates are those previously supplied

## G. S. SHOEDSACK BRINGS TO HOLLYWOOD SACRED CARPET OF MECCA

G. S. Schoedsack has just received from a friend in England a wonderful relic in the form of a small piece (about 2½ by 3 feet) of the last sacred carpet woven to cover the Kaaba, the big, black stone at Mecca from which the prophet Mohammed ascended to heaven.

The carpet is fabricated of silk, very heavy and made by hand, of course, with Arabesques and heraldic designs worked into the fibre—and being a genuine relic, it is priceless.

These sacred carpets were originally woven in Egypt and constituted the gift of that country to the annual pilgrimage to Mecca, which was the great event of the Mohammedan world.

It was the law that when the new carpet arrived at Mecca the old carpet should be given to the reigning king, who disposed of it by cutting it into small pieces and presenting them to his friends. After this fashion the last sacred carpet fell into the hands of the late King Hussein of Hedjaz, Grand Sherif of Mecca, who gave a liberal cutting of the carpet to Col. Cyril Wilson, of the British Army, who in turn sent it to his sister-in-law, Mrs. C. Stuart Wilson, of Yew Banks, Oakley, Hants, England.

It was Mrs. Wilson, who for courtesies extended to her by Mr. Schoedsack aboard ship enroute from the Orient to England, rewarded him and his family with the wonderful Mohammedan relic which he is so proudly exhibiting to his friends among The International Photographers.

This is believed to be the only relic of the kind ever to come out of the Mohammedan countries.

## OTTO K. OLESEN SOUND STUDIOS

The Otto K. Oleson Sound Studios, recently opened division of the Otto K. Oleson Illuminating Company, may aptly be called the "Building of Memories." Those who remember the good old days will recall that Paramount Studios once occupied this site. Mary Pickford had a dressing room in this very building; Gloria Swanson created her early successes under its roof; Douglas Fairbanks and a myriad of stars once called the studio at 1560 North Vine Street their moving picture home.

Far seeing Mr. Oleson believes that Hollywood is destined to become the artist center of the radio world. Joseph G. Catanich, formerly of Electrical Research Products, and a graduate of Stanford University, is at the head of the new sound studios. Sterling M. Stevens is at the head of production and Mr. Cliff McDonald is chief in charge of recording.

as "Eastman Extreme-red Sensitive." For most purposes, the new Type I-R plates will take their place.

For infra-red photography with these plates, the Wratten A (Number 25) Filter may be used on the lens of the camera. Other red filters (Number 70, Number 89A, etc.) are equally effective but offer no advantages. The Number 87 filter, which transmits no visible light, must be used, over the light source, for "photography in total darkness"; but it can be used only with Type I-P plates.

In infra-red photography it is important to avoid the use of hard-rubber slides in plate holders, the Kodak Company's announcement warned. Such slides are translucent to infra-red rays unless the rubber contains sufficient composition to make them opaque. Fiberboard slides and metal slides are safe in this respect.



## "ACES OF THE CAMERA"

In The Saturday Evening Post of July 22, appears an article by Palma Wayne entitled "Aces of the Camera," a yarn dealing with the vicissitudes of the men who put the move in movies.

Miss Wayne has evidently been a keen observer of the cameraman in action and her story will be of great interest to those who wonder what the cameraman does and how he does it.

In giving attention to the cameraman The Saturday Evening Post is to be congratulated, for these knights of the camera are the *sine qua non* of the motion picture personnel and the camera, itself, is the fulcrum upon which the entire industry turns.

Glorifying the cinematographer, Miss Wayne says: "To see the cameraman in The Big Cage—in gray spats, gray gloves and a perfectly tailored gray suit, looking like a Parisian boulevardier—directing, but never touching the camera, was an imposing sight."

The cameraman is not always a symphony in gray, as Miss Wayne has him here, but it is admitted that when he does set out to give attention to his sartorial adornment his appearance is something to brag about, especially when he tops the tout ensemble with his high hat.

Miss Wayne, in her Post story, could give attention to only a few of the "Aces of the Camera." In Hollywood, Chicago, New York, London, there are many "aces" and, perhaps in the days to come, she will find some interesting yarns about those to whom she could give no attention in this her first venture into Camera-landia.

## NEW FINE GRAIN NEGATIVE

Kodak Panatomic Film, a panchromatic film of exceedingly fine grain, is currently making its debut for use with miniature cameras. The fine grain permits generous enlargements from diminutive negatives. Panatomic Film has the same speed as N. C. Film in daylight and is twice as fast by artificial light.

Panatomic Film is being manufactured in three types of rolls: F127, for cameras taking 16 pictures on the "vest pocket" roll; F117 for Rolleiflex cameras; and a 30-exposure daylight-loading roll for Leica cameras.

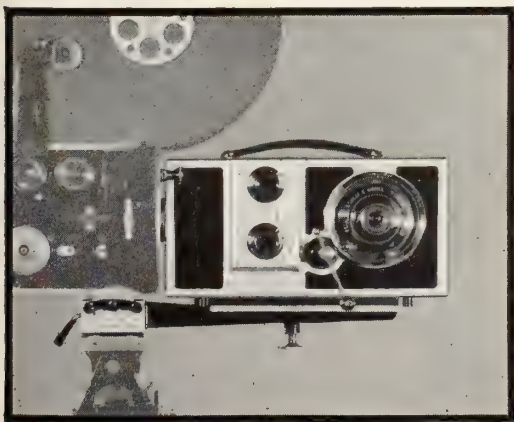
Filter factors for Panatomic Film are the same as for Kodak Super Sensitive Panchromatic Film. As in the case of Super Sensitive Panchromatic, a piece of black adhesive tape—supplied with each roll of film—must be used to cover the camera's red window when the film is actually being wound to a new number.

Kodak Panatomic Film will be distinguished by a "Kodak yellow" carton with a blue and black saw-tooth border. Each carton will contain a direction sheet giving the developer formulae. The new film should be developed under the same conditions as Kodak Super Sensitive Panchromatic Film.

Simultaneously with the new film, the Eastman Kodak Company announced the addition of another miniature model to its line of European-type cameras—the Kodak Vollenda equipped with a Radionar Anastigmat f.4.5 lens and a Pronto shutter with speeds up to 1/100th second and with bulb, time, and a built-in self-timer. The Vollenda with an f.3.5 lens has been sold in the United States for about a year.

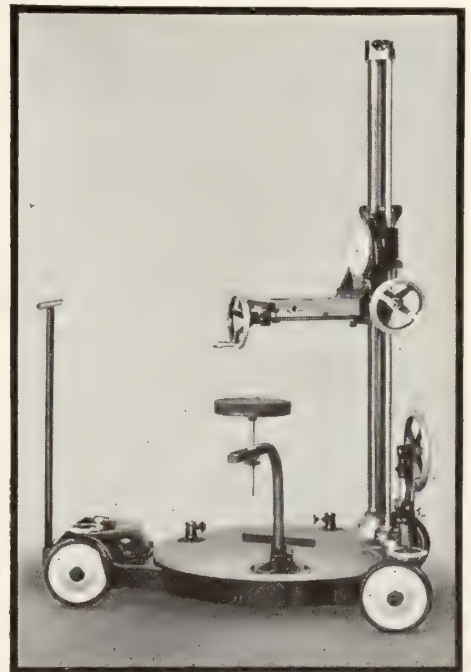
## The B & H Rotambulator

When the first of the new Bell & Howell Rotambulators was rolled onto an M-G-M sound stage at Culver City, perfection had come to another phase of cinematography. The utmost smoothness and precision in camera mobility had arrived. And movies since made with the Rotambulator attest this fact. They include: "Turn Back the Clock," "Hold Your Man," "Hell Below." The camera may be rotated, panned, raised, lowered, and tilted at will—with amazing freedom and steadiness—with every movement smooth and *sure*. Write for complete technical description.



### B & H Cooke VARO LENS

The B & H Cooke Varo Lens, originated to overcome limitations of dolly shots in awkward situations, has led to picture results far beyond these originally contemplated. This ingenuity in the use of new products on the part of cameramen is matched only by the ingenuity of the Varo Lens itself. The lens varies focal length while automatically retaining critical focus and correct exposure. Current results: "Stranger's Return," "Night Flight."



The New B & H Rotambulator

Write for complete data and prices. Available on rental to responsible studios.

## BELL & HOWELL COMPANY

1849 Larchmont Ave., Chicago, Ill.; 11 West 42nd St., New York; 716 North La Brea Avenue, Hollywood; 320 Regent St., London (B & H Co., Ltd.) Est. 1907



# Hollywood's Allied Industries

## ART REEVES GOES EAST

Art Reeves, of the famous Artreeves organization, is sojourning in the east on business in connection with his concern. He will visit New York, Boston, Detroit, Washington and other important points and en route returning will visit the Century of Progress exposition and incidentally, will fraternize in the newsreel miracle men of Local 666.

## WESTERN ELECTRIC

The Western Electric Studios, Inc., at their Metropolitan lot, have installed wide range recording systems according to Mr. R. J. Engler, sound director. They also recently installed new Western Electric vertical disc recording equipment to be used for radio transcriptions. They record Western radio material for the New York World broadcasts.

In addition to their four fixed studio sound channels they maintain four location units, all Western Electric. The location units are very complete and compact, using White trucks with 113 inch wheelbase, allowing them to follow the proverbial Ford's path. Besides the regular "mike" boom equipment they also carry a 40 inch sound concentrator "mike."

## LEICAMETER

A special model of the Weston exposure meter known as the Leicameter is being featured by E. Leitz, Inc., which has become popular among Leica and similar camera users. It is calibrated in accordance with the lens and shutter settings on the Leica camera (1 second to 1/500th second). The indicator moves over a double scale. The top scale refers to super pan films, while the lower is for modern ortho films. The price of this meter is \$22.50.

## AGFA-ANSCO EXPANDS

The Agfa-Ansco Corporation, in order to provide for future expansion, have just completed the construction of a modern film storage warehouse and a new laboratory for processing Agfa 16 m.m. Reversible film, at No. 1043 South Olive Street, and has transferred the stock and offices of the Agfa Raw Film Corporation, a subsidiary, to this address also. The new warehouse and lab. is under the management of E. M. St. Claire, who, for the past five years, has been in charge of the branch at 223 W. Third Street, Los Angeles.

For the benefit of their technical interests as related, especially, to the motion picture industry, they have also established technical and research offices at No. 1426½ Beachwood Drive, Hollywood, in the heart of the picture industry, which are under the personal supervision of Dr. Herbert Meyer. In this laboratory a service is maintained for the benefit of all Agfa film users—where technical questions and problems are solved. An Eastman Kodak sensitometer, which is standard equipment in all labs, is a part of the equipment used.

Long leases have been taken on the two locations above noted, which action is indicative of the faith Agfa-Ansco Corporation have in the future of the general photographic industry in Southern California.

## MITCHELL CAMERA IN JAPAN

A standard Mitchell camera has recently been shipped to the Dai Nippon Celluloid Company of Tokio, the largest manufacturer of motion picture film in Japan. The camera will be used in their research department for testing purposes.

## NEW BASS BARGAINGRAM

The Bass Camera Company of Chicago announces the new Bass Bargainingram No. 211 of 16 m.m. apparatus and supplies as now being ready for distribution.

Anyone interested in 16 m.m. equipment can secure a copy, which will be mailed free upon request. This Bargainingram has a most complete list of approved accessories for the amateur movie maker.

## CRASHING THE GATES

As a lecturer our own Glen Kershner is crashing the gates to success. On July 6, he lectured at Robinson's on the subject "The South Seas," and 1800 people were turned away. In addition to his lecture he exhibited three reels of his own film shot south of the equator. His fan mail has been averaging as high as fifteen letters a day.

## U. S. N. USES STINEMAN SYSTEM

The portable developing outfit used during the United States Navy's recent aerial survey in southeastern Alaska is manufactured by R. P. Stineman, the inventor of the well known Stineman developing system. The Stineman system has been carried into the far corners of the earth and this is only just another instance of its convenience and adaptability.

## BELL & HOWELL ELECTS FRED M. HALL TO V.-P.

Bell & Howell Company, Chicago, motion picture equipment manufacturers, announce the election of Fred M. Hall as Vice-President, in charge of their eastern offices, with headquarters in New York City.

Mr. Hall has been with the Bell & Howell Company five years, first as traveling sales representative and then as manager of the company's New York offices.

He graduated from the University of Wisconsin with a B.A. degree in 1915 and was on the staff of the St. Paul Association of Commerce until May, 1917, when he enlisted in the Army. He was commissioned second lieutenant in August of that year, went to France in the spring of 1918, and was promoted to first lieutenant in October. After the armistice he was stationed in Germany and later was detailed to Russia under the American Relief Administration.

Before joining the Bell & Howell Company, he was district manager for the Franklin Automobile Company and Regional Supervisor, Group Insurance Division, for the Metropolitan Life Insurance Company.





### NEW TELEPHOTO LENS

The Hugo Meyer Company is bringing out this month two new Telephoto lenses for 16 m.m. and 35 m.m. cameras for special work. These are 7 inch and 10 inch F:5.5 Tele-Megor telephoto lenses.

They are particularly useful for extremely long distance shots and in photographing wild life, birds, sports, etc., where the cinematographer would be unable to secure a picture without an extremely long focus lens. These lenses can be adapted to any of the 16 m.m. and 35 m.m. cameras now in use.

### HELEN MITCHELL

Miss Helen Mitchell (Mrs. Oliver Morosco) is producing a series of six features, the first, "Waffles," now in production at the California Tiffany Studios. The second will be entitled "Dance Clown."

### THE FEARS ON VACATION

The Fearless Educational camera blimps with the improved focus and follow finder controls are proving very popular. Twelve of them have been delivered in the last ninety days. Mr. and Mrs. Ralph Fear are on a combined business and pleasure trip to the East. At last reports they were in the northernmost parts of the Province of Quebec, Canada.

### ROACH BUYS MITCHELLS

The Hal Roach Studio at Culver City has recently purchased two of the new silent Mitchell Cameras, both equipped with the new type finders, new rolling tripods and other accessories. It is understood that these cameras are being used without any covering whatsoever and are proving most satisfactory.

### SPECIAL TIMING CAMERA

During the National Air Meet Races held in Los Angeles the first part of July the camera played a very important part. The Western Electric Timing Camera adopted as the official timing system of the Aeronautic Association was used. The same crew that operated this timing camera at the National Air Meet at Cleveland last year also officiated at the Los Angeles Air Meet. They were Charles Fetter and Harry Day, both of the Electrical Research Products, Inc.

### ACTIVITY ABROAD

From reports reaching this magazine there appears to be considerable motion picture activity in the foreign field. On the first of last June the China Sound & Color Film, Ltd., officially opened their studio and laboratory at Kiangwan, China. This company has a complete studio and laboratory and is equipped to photograph black and white and color.

The directors of this company are W. H. Jansen, W. D. Gande, Chang Nieh-Yun, J. Edgar, L. R. Morse, R. E. Stewardson and W. A. White.

### NEW MODEL LEICA CAMERA

E. Leitz, Inc., 60 East 10th Street, New York, announces the new Model F Leica camera, a camera that includes besides the usual shutter range of 1/20th to 1/500th second exposure, slow shutter speeds ranging from one full second to one-eighth second. Intermediate speeds may be secured by setting the pointer between two calibrated speeds; thus if the indicator is set between 4 and 8, a shutter speed of 1/16th second will

result. The new shutter speed control consists of a tiny knob situated near the lens on the front of the camera and operates independently of the regular shutter speed-setting dial on top of the camera.

A new magnifier lens built into the range and viewfinders permit a larger image to be seen. Another refinement is the inclusion of eyelets built into the camera body to accommodate a special carrying strap equipped with snap hooks which permits carrying of the camera without the case, as well as serving to steady the camera when slow exposures are made with the camera held in the hands. The strap, however, is not included in the price of the camera.

Booklet 1216 describing this new Leica Camera may be procured from local dealers or by writing E. Leitz direct.

### SCIENTIFIC SUBJECTS

Milt Moore has completed the first of a series of six one and two reel pictures on scientific subjects as follows: "Earthquake," "Sun God," "Goddess of the Night," "The Ice Age," "Lightning," and "The Cosmic Ray."

The first picture, "Earthquake," was photographed at the Seismological Laboratory at Cal-Tec and Carnegie Institute, the producing company being organized as the Cine-Science Associates.

Mr. Moore's associates are Dr. Russell Otis, Ph.D. and B.S., and Archibald McKaig, B.S., economist and electrical engineer.

Mr. Moore and his distinguished co-operators are to be congratulated upon the high plane of their productions.

### THREE COLOR TECHNICOLOR

The new three color process which has been used during the past year by Walt Disney for his "Silly Symphonies," is at last to be employed in a feature length picture as yet untitled. The Pioneer Pictures, Inc., organized by John Hays Whitney and Cornelius Vanderbilt Whitney, will produce this picture for the RKO 1933-34 program. It will be personally supervised by Meriam C. Cooper.

Those who have been fortunate in seeing this new Technicolor process have been loud in their praises of what they term perfect color photography.

### THE NEW VICTOR ANIMATOPHONE

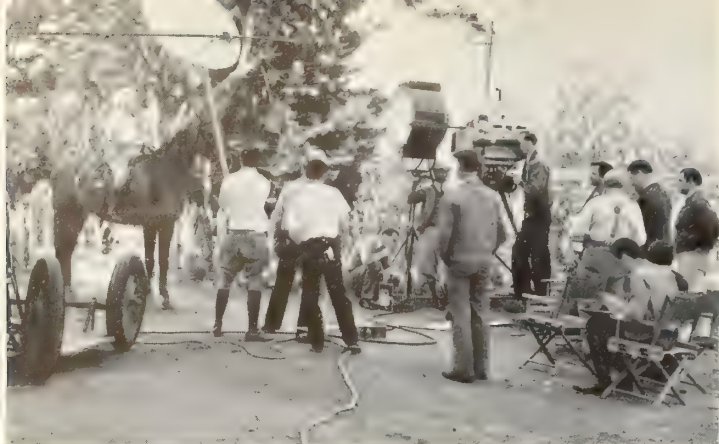
Alexander F. Victor, President of the Victor Animatograph Corporation, with the Victor engineering staff, have given their attention for many months to the developing and perfecting of the new Victor model 12-B "Blimp" Type Sound on Film Animatophone.

The Victor Company claims to have perfected a thoroughly practical 16 m.m. sound on film projector. Contrary to the belief of many 16 m.m. fans, sound on film presentations need not be limited to small room areas or small 30 or 40 inch pictures.

The projection equipment of the Animatophone is sufficiently powerful to produce a brilliant image at a distance of 100 feet or more. The sound equipment has sufficient volume for auditorium service and may be used in many places where heretofore only 35 m.m. equipment would have been practical.

It is also ideal for small room presentations wherever low volume is desired. Silent pictures may also be projected by ignoring the sound head and threading as in silent projection. Speed is adjustable for 16 frames per second as well as for 24 frames per second.





On location with the "Stranger's Return" company of M-G-M, featuring Miriam Hopkins, King Vidor directing. Miss Hopkins, mounted, has just entered the scene. Lionel Barrymore on the right is resplendent in the suspenders.

# ON THE FIRING LINE

By HELEN BOYCE

## FOX STUDIO

G. J. Fischer, Head of Camera Department

"THE WORST WOMAN IN PARIS." Producer, Jesse L. Lasky; author, Monta Bell; screen play by Martin Brown; director, Monta Bell; assistant, Les Selander; first cameraman, Hal Mohr; operative cameramen, W. Skall and I. Rosenberg; assistants, R. Surtees and P. Lockwood; stills, Anthony Ugrin; recording engineer, Al Von Kirbach; assistant, E. O'Brien; film editor, Paul Weatherwax; art director, Max Parker.

Cast: Benita Hume, Adolph Menjou, Harvey Stephens.

"MY WEAKNESS." Producer and author, B. G. De Sylva; continuity by David Butler and Bert Hanlon; additional dialogue, James Ryan; director, David Butler; assistant, Ad Schumar; first cameraman, Arthur Miller; operative cameraman, J. La Shelle and J. Schmitz; assistants, W. Abbott and E. Collins; stills, Eugene Kornman; recording engineer, Joseph Aiken; assistant, R. Strickfaden; film editor, Irene Morra; art director, Gordon Wiles.

Cast: Lilian Harvey, Lew Ayres, Sid Silvers, Charles Butterworth, Harry Langdon, Irene Bentley, Dixie Francis, Barbara Weeks, Marcelle Edwards, Susan Fleming.

"CHARLIE CHAN'S GREATEST CASE." Producer, Sol M. Wurtzel; author, Earl Derr Biggers; screen play by Lester Cole and Marion Orth; director, Hamilton McFadden; assistant, Percy Ikerd; first cameraman, Ernest Palmer; operative cameraman, D. Anderson; assistants, S. Little and R. Mack; stills, Cliff Mauphin; recording engineer, C. Leverett; assistant, T. W. Brent; film editor, Alex. Trofey; art director, Duncan Cramer.

Cast: Warner Oland, Heather Angel, Roger Imhof, John Warburton, Walter Byron, Frank Atkinson, Virginia Cherrill.

## CALIFORNIA TIFFANY STUDIOS

Edward Tiffany, Head of Camera Department

"WAFFLES." Producer, author and screen play, Helen Mitchell; director, Warren Millais; assistant, Roy McDevitt; first cameraman, Peverell Marley; operative cameraman, Harry David; assistants, Red Cawford, Bert Easton; stills, Don McKenzie; recording engineer, Carson Jewett; assistant, Martin Jackson; film editor; S. E. Graham; assistant, Robert Bradfield; art director, Ralph DeLacey; chief electrician, Don Donaldson; chief grip, Ben Bischoff; chief props, Charles Hanley and Ken Walton.

Cast: Sari Maritza, Buster Collier, Alan Mowbray, Barbara Luddy, Ivan Simpson, Grace Valentine, Mary Lee Mannig, Monali Lindley, Rex Irmond, Bert James, Jack DeWees.

## FREEMAN LANG STUDIOS

"CRAWLING DEATH." Producer and director, Charles Hutchison; author, Jacan Cohn; assistant, Mal Delay; first cameraman, William Thompson; assistant, William Jolly; stills, Paul Ries; recording engineer West Moreland; assistants, Chick Wells and Gary Harris; film editor, Rose Smith; art director, Paul Palmentola; chief electrician, Pat Patterson; chief grip, Walter Culp; chief prop, Walter Hahn.

Cast: Barbara Bedford, Robert Fraser.

## THE ASSISTANTS TALK IT OVER



What do you think of the National Recovery Act?  
Where is it playing?

## PARAMOUNT STUDIOS

Virgil Miller, Head of Camera Department

"WAY TO LOVE." Producer, Benjamin Glazer; story and screen play by Benjamin Glazer and Gene Fowler; additional dialogue by Claude Binyon and Frank Butler; director, Norman Taurog; assistant, Jack Mintz; first cameraman, Charles Lang; operative cameraman, Robert Pittack; assistant, Clifford Shirper; stills, Mack Elliott; recording engineer, Eugene P. Merritt; assistant, Luther Pitt; film editor, Hugh Bennett; assistant, H. T. Fritch; art director, Hans Dreier; chief electrician, Henry Schuster; chief grip, Roy Watson; chief prop, Clem Jones.

Cast: Maurice Chevalier, Sylvia Sydney, Edward Everett Horton, Arthur Pierson, Minna Gombell, Blanche Frederici, Nydia Westman, George Rigas.

"BIG EXECUTIVE." Producer, Bayard Veiller; original story by Alice Duer Miller; screen play by Laurence Stallings; director, Erle C. Kenton; assistant director, Jo Van Ronkel; first cameraman, Harry Fischbeck; operative cameramen, William Rand and Daniel Fapp; assistants, Lucien Ballard and Neal Beckner; stills, Sherman Clark; recording engineer, Harry D. Mills; assistant, Eben Kerr; film editor, James Smith; assistant, Stuart Gilmore; art director, Ernst Fegte; chief electrician, Stanley Williams; chief grip, Jimmy Hosler; chief prop, Ernie Johnson.

Cast: Ricardo Cortez, Richard Bennett, Elizabeth Young, Sharon Lynne, Dorothy Peterson, Barton MacLane, Charles Middleton, Pop Kenton, Maude Eburne, Albert Hart, Jean Beaks.

## METRO-GOLDWYN-MAYER STUDIOS

John Arnold, Head of Camera Department

"DANCING LADY." Producer, John Considine; author, James Warner Bellah; screen play by P. G. Wolfson and Allan Rivkin; director, Robert Z. Leonard; assistant director, R. A. Golden; first cameraman, Oliver Marsh; operative cameraman, Eddie Fitzgerald; assistant, Kymie Meade; stills, James Manatt; recording engineer, Douglas Shearer; film editor, Margaret Booth; chief electrician, Ted Wurtenberg. Cast: Joan Crawford, Franchot Tone, Grant Mitchell, Frank Morgan, Jean Malin, Ted Healy, Winnie Lightner, Jean Howard, Ferdinand Gottschalk.

"ANOTHER LANGUAGE." Producer, Walter Wanger; author, Rose Franken; screen play by Herman J. Mankiewicz and Donald Ogden Stewart; director, Edward H. Griffith; assistant, Joe Newman; first cameraman, Ray June; operative cameramen, Lester White, Charles Lawton and Rich Wade; assistants, Wilbert Bradley and Sam Cohen; stills, Milton Brown; recording engineer, Douglas Shearer; film editor, Hugh Wynn; art director, Frederic Hope; chief electrician, Lew Roberts; chief prop, Bob McQuellis.

Cast: Louise Closser Hale, John Beal, Henry Trayers, Margaret Hamilton, Willard Robertson, Irene Cattell, Minor Watson, Hal K. Dawson, Maidel Turner, Robert Montgomery, Helen Hayes.

"MARCH OF TIME." Producer, Harry Rapp; author, Moss Hart; screen play by Edgar Allen Woolf; director, Willard Mack; assistant, John Waters; first cameraman, William Daniels; operative cameraman, Al Lane; assistant, Bill Riley; stills, Frank Tanner; recording engineer, Douglas Shearer; film editor, Bill Gray; chief electrician, Floyd Porter; chief grip, Tommy Griffin; chief prop, Bert Sterling.

Cast: Alice Brady, Frank Morgan, Russell Hardie, Madge Evans, Eddie Quillan, Jackie Cooper, Mickey Rooney, Eddie Brophy, Ruth Channing, Jean Howard, Edwin Maxwell.

## INTERNATIONAL FILM STUDIOS

"ROAD TO RUIN." Producer and author, Willis Kent; screen play by Mrs. Wallace Reid and Norton Parker; directors, Mrs. Wallace Reid and Melville Shyer; assistant, George Curtner; first cameraman, James Diamond; assistant, Lee Crawford; stills, Madison Lacey; recording engineer, Homer Ackerman; assistant, Al Lavck; film editor, Roy Luby; chief electrician, Jack Wallace; chief grip, Red Miller; chief prop, Al Romero.

Cast: Helen Foster, Glen Roles, Nell O'Day, Mae Busch, Paul Page, Dick Hemingway, Richard Tucker, Robert Quirk.

## FANCHON ROYER STUDIOS

"NEIGHBORS' WIVES." Producer, Fanchon Royer; author, John Francis Atteford; director, Breezy Eason; assistant, Davidson; first cameraman, Ernest Miller; assistant, John McBurnie; recording engineer Carl O'Laughlin; film editor, Jean Spencer; art director, Paul Palmentoli; chief electrician, Shellenberger.

Cast: Dorothy MacKaye, Owen Moore, Mary Kornman, Vivien Oakland, Cyril Rine.



## RKO STUDIOS

### William Eglington, Head of Camera Department

**"LITTLE WOMEN."** Producer, Kenneth Macgowan; author, Louisa M. Alcott; screen play by Sarah Y. Mason and Victor Heerman; director, George Cukor; assistant, Ed Killy; first cameraman, Henry Gerrard; operative cameraman, Robert DeGrasse; assistant, George Diskant; stills, John Miehl; recording engineer, George Ellis; assistants, Ellis Fesler and Victor Appel; film editor, Jack Kitchin; assistant, Desmond Marquette; art directors, Van Nest Polglase and Hobe Erwin; chief electrician, F. H. Barton; chief grip, Tom Clement; chief prop, Charles Sayers.

Cast: Katherine Hepburn, Joan Bennett, Frances Dee, Paul Lukas, Jean Parker, Louise Closser Hale, Spring Byington, Douglass Montgomery, Henry Stephenson, John Davis Lodge.

**"ACE OF ACES."** Producer, Sam Jaffe; author, John Monk Saunders; screen play by John Monk Saunders and H. W. Hanneman; director, J. W. Ruben; assistant, Robert Margolis; first cameraman, Henry Cronjager; operative cameraman, Frank Redman; assistant, Cecil Cooney; stills, Fred Hendrickson; recording engineer, John Tribby; assistants, R. K. Spotts and James Field; film editor, George Hively; assistant, Jack Hively; art directors, Van Nest Polglase and Al Herman; chief electrician, P. A. Bristow; chief grip, Jim Kirley; chief prop, Gene Rossi.

Cast: Richard Dix, Elizabeth Allan, Ralph Bellamy, Theodore Newton, Art Jarrett and William Cagney.

**"ANN VICKERS."** Producer, Pandro Berman; author, Sinclair Lewis; screen play by Jane Murnin; director, John Cromwell; assistant, Kenneth Holmes; first cameraman, David Abel; operative cameraman, Joe Biroc; assistant, James Daly; stills, Gaston Longet; recording engineer, Clem Portman; assistants, J. G. Stewart and E. J. Harman; film editor, George Nicholls; assistants, Bill Morgan and Tommy Scott; art directors, Van Nest Polglase and Charles Kirk; chief electrician, Jimmy Almond; chief grip, Sam Redding; chief prop, Kenny Koontz.

Cast: Irene Dunne, Walter Huston, Conrad Nagel, Bruce Cabot, Edna May Oliver, Kitty Kelly, Robert Benchley.

## UNIVERSAL STUDIOS

### F. S. Campbell, Head of Camera Department

**"LILIES OF BROADWAY."** Producer, Carl Laemmle, Jr.; screen play by John Francis Larkin; director, E. A. DuPont; assistant director, Wm. Reiter; first cameraman, Tony Gaudio; operative cameraman, Richard Fryer; assistant, William Dodds; stills, Shirley Vance Martin; recording engineer, Fred Feichter; assistant, Vannemann; film editor, Robert Carlisle; art director, Danny Hall; chief electrician, Irvin Smith; chief grip, Fred Parkinson; chief prop, Harry Gundstrom.

Cast: June Knight, Dorothy Burgess, Sally O'Neil, Mary Carlisle, Neil Hamilton, Richard Carle, Ed. Briese, Oscar Apfel, Harvey Clarke, Burton Churchill, Bonita, Eddie Phillips.

**"THE NEW DEAL."** Producer, Bryan Foy; author, Willard Back; screen play written and directed by Al Bosberg; assistant director, Lester Weilson; first cameraman, Joseph A. Valentine; operative cameramen, Al Wetzel and Jake Badaracco; assistants, Walter Rankin, Paul Salerno, Henry Cronjager, Stanley Horsley; stills, Fred Grossi; recording engineer, Lambert E. Day; assistants, John Stack and William Montague; film editor, Arthur Hilton; assistant, George Reid; art director, Willard Vogel; chief electrician, Chris Borneman; chief grip, Hume; chief prop, Bill Cain.

Cast: Myrt and Marge, Clarence, Trixie Friganza, Ted Healy, Grace Hayes, Tommy Jackson.

**"HE COULDN'T TAKE IT."** Producer, Warren Doane; director, James Horne; assistant director, Bill Hackney; first cameraman, Len Powers; assistant, Walter Williams; stills, Bert Six; recording engineer, Jesse Moulin; assistant, Bill Richards; film editor, Harry Marker; chief electrician, Roy Fullerton; chief grip, Bert Whalen.

Cast: Eddie Nugent, Sterling Holloway, Kay Deslys, Bert Roach, Dorothy Ward.

**"THE INVISIBLE MAN."** Author, H. G. Wells; screen play by R. C. Sherriff; director, James Whale; assistant director, Joe McWong; first cameraman, Arthur Edeson; operative cameraman, King Gray; assistant, Jack Eagan; stills, Roman Freulich; recording engineer, William Hedgecock; assistant, John Kemp; film editor, Theodore Kemp; art editor, Dorry Hall; chief electrician, Mathewson; chief grip, Peter Abriss; chief prop, Wally Kirkpatrick.

Cast: Claude Rains, William Harrigan, Gloria Stuart, Dudley Diggs, Henry Wavers, Una O'Connor, E. E. Clive.

**"NATURE IN THE ROUGH."** Producer, Warren Doane; authors, Vernon Smith and James W. Horne; director, James Hackney; assistant director, Morey Lightfoot; first cameraman, Len Powers; assistant, Walter Williams; stills, Andy Anderson; recording engineer, Z. J. Kegl; film editor, Harry Marker; assistant, H. Pivar.

Cast: Louise Fazenda, Bert Roach, Olive Cooper, Raymond Hatton, Wally Howe.

**"LOVE, HONOR AND OH BABY."** Producer, Sam Jacobson; screen play by Norman Krasna and Eddie Buzzell; director, Eddie Buzzell; assistants, Dave Selman and Fred Frank; first cameraman, George Robinson; operative cameraman, James Drought; assistant, Lloyd Ward; stills, Dave Farrell; recording engineer, Robert Pritchard; assistant, Don Cunliffe; film editor, Phil Kahn; assistant, Murray Selden; art director, Stanley Fleischer; chief electrician, Roy Fullerton; chief grip, Ralph Johnson; chief prop, Bob Murdock.

Cast: ZaSu Pitts, Slim Summerville, Venice Teasdale, Donald Meek, Lucille Gleason, George Barbier, Purnell Pratt, Henry Kolker.

**"SATURDAY'S MILLIONS."** Producer, Carl Laemmle, Jr.; author, Dale Van Every; screenplay, Dale Van Every; director, Ed. Sedgwick; assistant, Ed. Moehler; first cameraman, Charles Stumar; operative cameraman, Wilfred Cline; assistants, John Martin and Martin Glouner; stills, Joe List; recording engineer, Jesse Moulin; assistant, William Richards; film editor, Daniel Mandell; assistant, John Hall; art director, Tom O'Neil; chief electrician, Tommy Valdez; chief grip, Bert Whalen; chief prop, Ed. Keyes.

Cast: Robert Young, Lulu Hymes, Grant Mitchell, Richard Tucker, Lucille Lund, Andy Devine, John Mack Brown, Paul Hurst.



On page 34 of this issue is the complete personnel of "Waffles," the first offering of Helen Mitchell as producer. The scene herewith shows the technical crew in action photographing and recording one of the important scenes of this intriguing picture.

## TWENTIETH CENTURY PICTURES, INC.

**"THE BOWERY."** Producers Joseph M. Schenck and Darryl Zanuck; associate producers, Ray Griffith and William Goetz; authors, Michael L. Summons and B. R. Solomon; screen play by Howard Estabrook and James Gleason; director, Raoul Walsh; assistant, Fred Fox; first cameraman, Bert Glennon; operative cameramen, Stuart Thompson and Russell Metty; assistants, Harry Webb and Hal Carney; stills, Kenneth Alexander; recording engineer, Frank Crewsbach; assistants, Jack Noyes, Don Oswald; film editor, Ray Curtis; art director, Richard Day; chief electrician, Donald Cartenson; chief grip, Tex Hayes; chief prop, L. Hafly.

Cast: Wallace Beery, George Raft, Jackie Cooper.

## WARNER BROS. FIRST NATIONAL STUDIOS

### Charles Glouner, Head of Camera Department

**"FEMALE."** Producer, Henry Blanke; director, Wilhelm Dieterle; assistant director, Frank Mattison; first cameraman, Sid Hickox; operative cameraman, Tom Brannigan; assistant, Andy Anderson; stills, Scotty Welbourne; recording engineer, I. A. Brown; film editor, Jack Killifer; art director, Jack Okey; chief electrician, Charles Ferguson; chief grip, Dude Mashmeyer; chief prop, Clarence Eurist.

Cast: Ruth Chatterton, Ferdinand Gottschalk, Laura Hope Crewes, Sterling Holloway.

**"EVER IN MY HEART."** Producer, Robert Presnell; director, Archie Mayo; assistant, Frank Shaw; first cameraman, Leon Shamroy; operative cameraman, Al Green; assistant, Carl Guthrie; recording engineer, Dolph Thomas; film editor, Owen Marks; art director, Anton Grot; chief electrician, Alexander; chief grip, Glenn Harris; chief prop, Morris Goldman.

Cast: Barbara Stanwyck, Otto Kruger, Ralph Bellamy.

**"THE WORLD CHANGES."** Producer, Robert Lord; screen play by Ed Chodorov; director, Mervyn Le Roy; assistant, Bill Cannon; first cameraman, Sol Polito; operative cameraman, Mike Joyce; assistant, Lou De Angelis; stills, Homer Van Pelt; recording engineer, Al Riggs; art director, Bob Haas; chief electrician, George Whittemore; chief grip, Harold Noyes; chief prop, Martin Hershey.

Cast: Paul Muni, Anna Q. Nilson, Guy Kibbee, Aline McMahon.

**"KENNELL MURDER MYSTERY."** Producer, Robert Presnell; director, Michael Curtiz; assistant, William McGann; first cameraman, Chick McGill; operative cameraman, Ken Green; assistant, William Whitley; stills, John Ellis; recording engineer, Charles Althouse; film editor, Hal McClernon; art director, Jack Okey; chief electrician, Kennedy; chief grip, Owen Crompton; chief prop, Lymie Plews.

Cast: William Powell, Mary Astor.

## METROPOLITAN-WESTERN SERVICE STUDIOS

**"GALLOPING ROMEO."** Producer, Monogram Pictures Corporation; author, R. N. Bradbury; screen play by Harry O. Jones; director, R. N. Bradbury; assistant director, Harry O. Jones; first cameraman, Archie Stout; assistant, R. Harlan; stills, Joe Walters; recording engineer, Glen Rominger; film editor, Carl Pierson; art director, Ernest R. Hickson; chief electrician, Edward L. Cox; chief grip, William Smith; chief prop, William Stratton.

Cast: Bob Steele, Doris Hall, George Hayes, Ed Brady, George Nash.

**"SENSATION HUNTERS."** Producer, Monogram Pictures Corporation; author, Whitman Chambers; screen play by Paul Schofield; dialogue by Albert E. DeMond; director, Charles Vidor; assistant, Vernon Keays; first cameraman, Sid Hickox; operative cameraman, Tom Brannigan; assistant, Wesley Anderson; stills, Joe Walters; recording engineer, John A. Stransky, Jr.; assistant, J. Roberts; film editor, Carl Pierson; art director, Ernest R. Hickson; chief electrician, Edward L. Cox; chief grip, Tex Hayes; chief prop, Bob Lander.

Cast: Arline Judge, Marion Burns, Preston Foster, Kenneth MacKenna, Juanita Hansen, Creighton Hale.



# announcing

## NEW HUGO MEYER

### TELEPHOTO LENSES

#### TEL-MEGOR f/5.5

#### 7" 10" 12" 16"

Characteristically Hugo Meyer in their high corrections and superior optical quality, these new and powerful Tele-Megor lenses are compact objectives of real, fixed separation telephoto construction. This compactness is illustrated by the fact that their focal lengths are practically double the actual distance between the rear lens of the objective and the film in the camera. Needle-sharp and crisp in their definition, they reveal in infinite and sharp detail, vague distances imperceptible to the naked eye. They are adapted to all 35mm cameras.



Literature on Request

## HUGO MEYER & CO.

245 WEST 55th STREET

NEW YORK

### LIGHT FILTERS, ETC.

(Continued from Page 14)

transmission is .10%. According to the above relationship, if

$$D = \log \frac{1}{T}$$

and we have a transmission of 10% (.10), then

$$D = \log \frac{1}{.10} = \log 10 = 1.00$$

The horizontal axis is an axis of wave length scaled from 200 to 700 millimicrons. The visible region lies between wave lengths 400 to 700 millimicrons. However, due to the fact that photographic emulsions have very marked sensitivity in the blue-violet and violet regions of the spectrum, the transmission of these filters is given below the visible limit of 400 millimicrons.

Referring again to Figure 6, filter No. 58, it will be

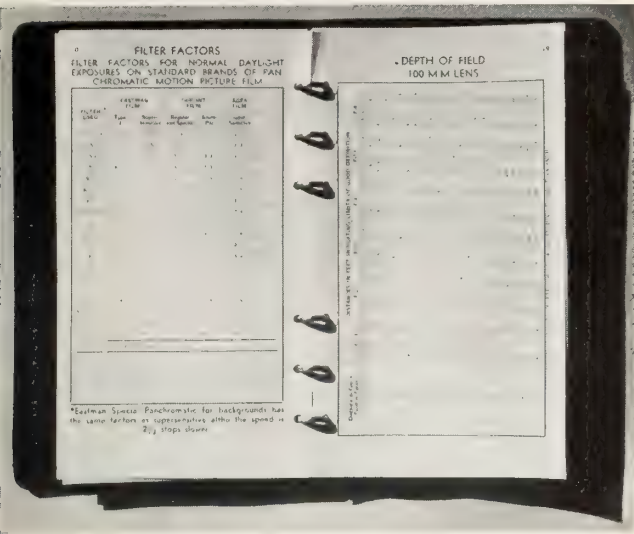
observed that the spectrophotometric curve of this filter shows complete absorption, as indicated by the black area, to a wave length of approximately 480 millimicrons. The shape of the curve, i.e., the steepness of it, indicates the "cut" of the filter. It will be observed that at a wave length of 520 millimicrons the filter has its maximum transmission. This is in the green region of the spectrum and from the chart shows slightly greater than 50% transmission at that point. Beyond that point toward longer wave lengths there is a gradually increasing absorption until at a wave length of approximately 630 millimicrons there is again complete absorption which extends to 695 millimicrons, at which point there is a slight transmission band which extends beyond 700 millimicrons.

If one considers spectrophotometric curves of this type and analyzes them in the above manner it is quite simple to determine the value of a given filter for a given scene provided the emission of the light source, the color of the objects in the scene, and the sensitivity of the photographic emulsion are known.

It is interesting to note that all dyed gelatin filters transmit light very freely in the infra-red region, i.e., that region beyond 800 millimicrons. Many filters, however, have definite absorption characteristics in that region of the spectrum termed the near infra-red and which lies between wave lengths 700 and 800 millimicrons. Examples of such curves are contained in the Wratten light filter booklet but filters of the infra-red type are not of any great importance to normal motion picture work, they are, however, of great value in photographic work with infra-red sensitive emulsions.

Thus far in this article all of the various factors which deal with the spectral characteristics of photography with filters have been discussed; namely, visual sensitivity, light emission, emulsion sensitivity, and filter transmission. With a knowledge of these factors a more intelligent discussion can be had of the practical side of filter photography. Up to this point the various phases of filter photography have been discussed from an almost exclusively technical point of view. Before entering into a discussion of the practical phases we must limit ourselves to certain rather definite items. To this end we shall deal exclusively with Wratten light filters as used in conjunction with Eastman Super-sensitive Panchromatic film with daylight as the chief source of illumination. The general factors as discussed under this specific setup are applicable to other types of filters used in conjunction with films of different color sensitivity and light sources with different emission factors. The specific factors contained in this paper, however, deal with the filters, film, and light source as indicated above.





This is the fifth installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's BOOK of TABLES

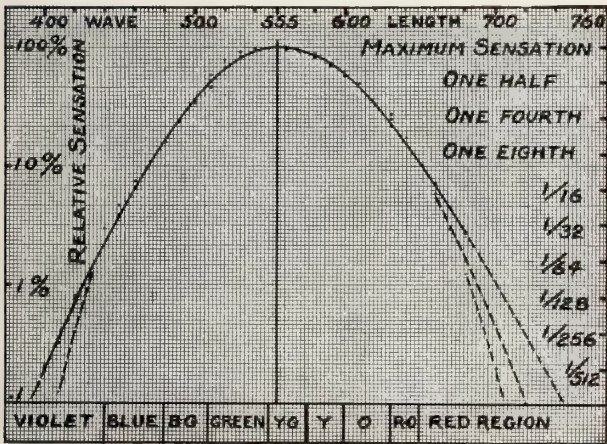
By FRED WESTERBERG

There are several more installments to come, concluding with the November issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

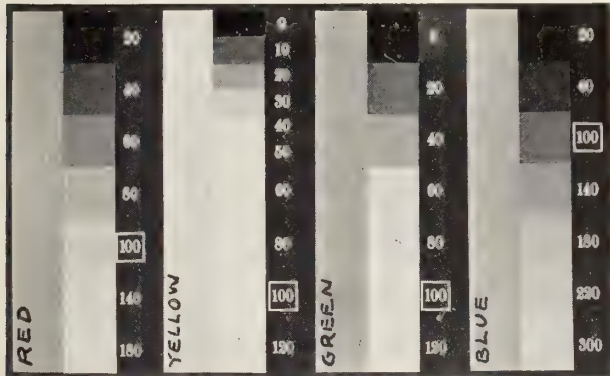
Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 37; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 37 and 38. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index unless others are added.

The accompanying cut is of a Lefax cover. It may be purchased from dealers at 75 cents.

## SENSITOMETRY COLOR SENSITIVITY



Relative sensitivity of the human eye to colors of the spectrum. Data from Nutting and from Ives, also from the report on Nomenclature and Standards of the I. E. S., 1918.



Photograph of Agfa color chart showing the difference in sensitivity to color between the human eye and a typical panchromatic emulsion. In the original chart the four colors matched their accompanying neutral scale in brightness at 100 under daylight. The photograph was made without a filter, using daylight. Tests of this sort can be readily made with ordinary camera equipment.

## DEPTH OF FIELD 20 mm. LENS

Distance in Feet To Point of Focus	Distances In Feet Indicating Limits of Good Definition			
	F-1.4	F-2	F-2.8	F-4
1	.94 to 1.07	.91 to 1.10	.88 to 1.15	.84 to 1.20
2	1.8 to 2.2	1.7 to 2.3	1.6 to 2.7	1.4 to 3.3
3	2.6 to 3.5	2.5 to 3.8	2.1 to 5.2	1.9 to 7.3
4	3.3 to 5.1	3.1 to 5.8	2.6 to 9	2.3 to 20
5	3.9 to 6.9	3.7 to 8	3.0 to 17	2.5 to INF
6	4.6 to 8.8	4.0 to 11	3.3 to 30	2.8 to INF
7	5.1 to 11.3	4.5 to 15	3.7 to INF	3.1 to INF
8	5.6 to 14.0	5.0 to 21	4.0 to INF	3.3 to INF
9	6.0 to 17.5	5.3 to 29	4.3 to INF	3.5 to INF
10	6.5 to 22	5.7 to 43	4.7 to INF	3.8 to INF
12	7.3 to 36	6.2 to INF	5.2 to INF	4.2 to INF
15	8.3 to 82	7.0 to INF	5.7 to INF	4.3 to INF

Based on an allowable circle of confusion of .002 of an inch.

## 25 mm. LENS

Distance in Feet To Point of Focus	Distances In Feet Indicating Limits of Good Definition			
	F-1.4	F-2	F-2.8	F-4
1	.97 to 1.03	.96 to 1.05	.94 to 1.07	.91 to 1.10
2	1.87 to 2.14	1.82 to 2.2	1.76 to 2.3	1.68 to 2.5
3	2.7 to 3.3	2.6 to 3.5	2.5 to 3.7	2.3 to 4.2
4	3.5 to 4.7	3.3 to 5.0	3.2 to 5.5	2.9 to 6.5
5	4.3 to 6.3	4.0 to 7.0	3.7 to 7.6	3.3 to 9.8
6	5.0 to 7.5	4.7 to 8.5	4.3 to 10.2	3.8 to 13.6
7	5.7 to 9.3	5.2 to 10.7	4.7 to 13.6	4.2 to 23
8	6.3 to 11.1	5.8 to 13.2	5.2 to 18	4.5 to 40
9	6.9 to 13.1	6.3 to 16.2	5.6 to 24	4.8 to 95
10	7.4 to 15.3	6.7 to 20	5.9 to 33	5.0 to INF
12	8.5 to 20.6	7.6 to 29	6.6 to 72	5.5 to INF
14	9.4 to 27.3	8.3 to 45	7.0 to INF	6.0 to INF
16	10.3 to 36	9.0 to 75	7.5 to INF	6.3 to INF
18	11.0 to 48	9.5 to 162	8.0 to INF	6.5 to INF
20	11.8 to 66	10.0 to INF	8.4 to INF	6.7 to INF

Based on an allowable circle of confusion of .002 of an inch.



## JUNIOR MOTION PICTURE CAMERA NOTES

(Continued from Page 23)

28 degrees measured between vertical boundaries and the 16 M/M with its standard lenses gives about 25 degrees. The use of a 35 M/M lens makes possible angles around 44 degrees on professional film.

**Question:** What is meant by "Airmail Outside Handling"?

**Answer:** You are referring to your question, last month, 16 M/M newsreel subject. All newsreel concerns have agreements with the post office department whereby the packages mailed by cameramen via air shall not be placed in the pouches and shall not go through the regular postoffice routine.

When the plane lands at the new Brunswick Field, New York, the newsreel company sends a messenger to meet the plane. The pilot hands the package to the messenger who rushes it to the lab, thus saving time that would delay the "stuff" if it went through the regular delivery. Labels are provided for such occasions, which are marked, "Outside Handling."

**Question:** Referring to microscopic photography I note the word beam-splitter used. Can you tell me what that means?

**Answer:** Briefly, it is a prism, mounted on the side of the microscope, which allows focusing while the picture is being made. The prism permits a small portion of light to travel straight up or sideways as the case may be, to an eye piece, while the rest of the illumination travels toward the film.

**Question:** Is it better to focus the camera visually or depend upon the calibrations?

**Answer:** If the lens has been carefully calibrated, it may be relied upon to be more accurate, as the eye is often in error.

**Question:** Is there any way I may determine if a roll of raw stock is negative or positive?

**Answer:** There are several identifying features. In most instances positive is perforated with square cut holes, although some positive, particularly for process work, has Bell & Howell perforations, the negative with rounded corners. A fresh piece of positive is light yellow and feels slightly thinner than negative. Since it is all dyed, the color is of a darker hue. It is advisable always to do the testing in a subdued light.

**Question:** My film seems to be fogged on the sides at the beginning and end of each roll.

**Answer:** The fault is entirely yours. You are getting what is known as "edge-fog." This comes from carelessness in loading and unloading the camera in the daylight.

**Question:** Can you tell me some extreme speeds of lenses?

**Answer:** The new Astro lenses have an enormous speed of f:0.95; it has a speed twenty-two times that of an f:4.5 or four times that of an f:1.9. Carl Zeiss announces a lens with a guaranteed relative aperture of f:0.85. It was primarily intended for X-ray cinematography.

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## MAKE-UP

Panchromatic Make-up is known by the following numbers.\*

Panchromatic Grease Paint—Nos. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 and 31.

Panchromatic Powder—Nos. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 and 31.

Panchromatic Liquid Make-up—Nos. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 and 31.

Panchromatic Lining Color—Nos. 21 and 22.

Panchromatic Lip Rouge—Nos. 7 8 and Studio Special.

Dermatograph Pencil—Brown.

Masque—Brown.

TYPES	Grease Paint	Face Powder	Lining Color	Lip Rouge	Liquid Make-up
Blond Women	26	26	22	8 Or Studio Special	26
Brunette Women	27	27	22	8 Or Studio Special	27
Blond Men	28	28	22	7	28
Brunette Men	29	29	22	8 Or Studio Special	29
Elderly Women	26	26	21	7	26
Elderly Men	28	28	22	8 Or Studio Special	28
Children Girls	25	25	21	8 Or Studio Special	25
Children Boys	25	25	21	8 Or Studio Special	25

### AVERAGE MAKE-UP NUMBERS USED BY DIFFERENT TYPES OF PEOPLE FOR USE WITH SUPERSENSITIVE PANCHROMATIC FILM

For extreme types the numbers may vary to suit the conditions.

In special cases, some children and young men, who are tanned to the right shade, photograph well without make-up.

The problem of choosing the proper shade of make-up is complicated by the fact that the eye and the film do not "see" color in the same way. Different brands of film also vary in their sensitiveness to various make-up colors. The color of the light source must also be taken into consideration.

The only safe thing to do is to make photographic tests with a specified film until the various characters register in their proper key under the same light. The color of the lips should be carefully watched.

\*Numbers used designate Max Factor's Panchromatic Make-up especially manufactured for use with Panchromatic Film.

## PROJECTION

### 16 mm. FILM

#### SIZE OF PICTURE OBTAINED IN PROJECTION WITH DIFFERENT LENSES AT VARIOUS DISTANCES FROM THE SCREEN

Size of Picture On Screen In Inches	DISTANCE IN FEET FROM PROJECTOR TO SCREEN						
	1 inch Proj. Lens	1½ in. Proj. Lens	2 inch Proj. Lens	2½ in. Proj. Lens	3 inch Proj. Lens	3½ in. Proj. Lens	4 inch Proj. Lens
9 by 12	2.7	4.0	5.4	6.7	8.1	9.5	10.9
9.7 by 13	2.9	4.3	5.8	7.3	8.7	10.2	11.7
10.5 by 14	3.1	4.6	6.2	7.8	9.3	11.0	12.6
11.2 by 15	3.3	4.9	6.6	8.2	9.9	11.7	13.4
12.0 by 16	3.5	5.3	7.0	8.8	10.6	12.4	14.3
13.5 by 18	3.9	5.9	7.8	9.9	11.8	13.8	16.0
15.0 by 20	4.4	6.6	8.8	11.0	13.2	15.5	17.7
16.5 by 22	4.8	7.2	9.6	12.1	14.5	17.0	19.5
18.0 by 24	5.3	7.9	10.6	13.2	16.0	18.6	21.3
19.5 by 26	5.7	8.6	11.4	14.3	17.2	20.2	23.0
21.0 by 28	6.2	9.3	12.4	15.4	18.6	21.7	24.8
22.5 by 30	6.6	9.9	13.2	16.5	19.9	23.2	26.6
24.0 by 32	7.0	10.5	14.0	17.6	21.1	24.8	28.4
25.5 by 34	7.5	11.3	15.0	18.7	22.5	26.2	30.0
27.0 by 36	7.9	11.8	15.8	19.8	23.6	27.7	31.8
28.4 by 38	8.3	12.5	16.6	20.9	25.0	29.2	33.5
30.0 by 40	8.8	13.2	17.6	22.0	26.4	30.8	35.3
33.0 by 44	9.7	14.5	19.4	24.2	29.1	34.0	38.8
36.0 by 48	10.6	15.8	21.2	26.4	31.7	37.0	42.4
39.0 by 52	11.4	17.1	22.8	28.5	34.3	40.0	45.8
42.0 by 56	12.3	18.5	24.6	30.7	37.0	43.0	49.3
45.0 by 60	13.2	19.8	26.4	33.0	39.6	46.0	52.8
48.0 by 64	14.1	21.1	28.2	35.2	42.3	49.3	56.4
54.0 by 72	15.8	23.7	31.6	39.5	47.4	55.3	63.3
60.0 by 80	17.6	26.4	35.2	44.0	52.8	61.8	70.4
66.0 by 88	19.4	29.1	38.8	48.4	58.0	68.0	77.6
72.0 by 96	21.1	31.6	42.2	52.8	63.3	74.0	84.5

Based on Projection Aperture .284 by .380 of an Inch



## CHORINES DUCK POLITO

Sol Polito, cameraman for the Busby Berkeley ensembles which are to decorate Warner Brothers new musical, "Footlight Parade," managed for two days to escape a promised ducking in the pool provided by the studio for the water number of that picture.

Berkeley himself and all others connected with the production, accepted the inevitable and took to the water, willingly or unwillingly, when the hundred and twenty girls working on the set decided to complete each day's work with a general baptism for the crew.

But not Polito. He managed a hurried exit every time the girls started in his direction. His downfall came on



Left to right: Sol Polito, Lt. Valconi, Joe E. Brown

the third day when Joe E. Brown visited the set with Sol's countryman, Lt. Tito Valconi, Italian air ace, as his guest and Sol was asked to stand in for a still picture with the aviator.

Polito agreed enthusiastically and Buddy Longworth, still cameraman, maneuvered his subjects to the edge of the pool and pressed the button. That was the prearranged signal for the girls, and Polito, caught in the net by his own vanity, got a quick dunking.

So, incidentally, did Joe E. Brown. The girls had mercy on the Italian flyer, however, and he retired only slightly splashed.

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## MEETING FAXON DEAN

Faxon Dean's new business address is No. 1515 North Cahuenga Boulevard, Hollywood. At that number he has installed one of the largest camera supply stocks on the West Coast and is prepared to render complete service to both the professionals of the studios and to the amateurs and novices in the art in both motion and still equipment.

Mr. Dean's announcement gives his business title as Hollywood's Camera Supply Co., Ltd. He is the man who photographed that celebrated production, "The Cop-perhead," featuring Lionel Barrymore and that was years ago.

Mr. Dean needs no introduction to the motion picture industry or to the public in general. Since 1912 his name has appeared on the main title of many fine pictures and his skill at the motion camera has helped to make famous scores of stars and feature players.

Among these are Mary Miles Minter, Wallace Reid, Agnes Ayers, Ethel Clayton, Thomas Meighan, Jack Holt, Alice White, Loretta Young, Douglas Fairbanks, Jr. and many others of equal fame.

It was in 1912 that he began his career as a cinematographer on the Pathe Weekly shooting newsreel stuff in New York and Washington. In New York he did general news work and in the Capitol was assigned to covering Congress.

In 1913 Mr. Dean was assigned to twenty-seven mid-western states with headquarters at Chicago and in 1914 joined Universal and began his brilliant career as a cinematographer of dramatic subjects.

Mr. Dean was later on the camera staff of the American, at Santa Barbara; was seven years with Paramount; and later with MGM and Warners.

He was in France two years with the A. E. F. and returned with a record befitting a first class professional cinematographer, a gentleman and a soldier.

See his announcement on page .... in this issue. THE INTERNATIONAL PHOTOGRAPHER extends to Mr. Dean sincerest wishes for a successful career.

## RESTING "?"



## What Wide Range Means in the Studio

By H. B. SANTEE

*Director of Commercial Engineering, Electrical Research Products, Inc.*

Western Electric Wide Range Recording is the latest development of years of research and experimentation at Bell Telephone Laboratories to remove some of the limitations previously placed upon recording and reproduction by the unsolved problems of science. It has extended the sound frequency range that can be recorded, produces a more natural and distortionless sound and allows for a greater individual expression of voice tones and musical instruments.

Despite these improvements, however, Wide Range Recording is not a new system involving radical changes, but rather a refinement of an existing sound system that had proved itself, subject to the limitations of scientific development, eminently satisfactory. Like many another refinement, developed in the steady march toward perfection, it involves certain changes of equipment; but the attainment of the ultimate quality of Wide Range Recording depends, equally with the new parts, upon a more rigid adherence to the standards of optimum recording.

As far as the studio is concerned no drastic changes are necessary. A studio that was considered a good studio for sound recording previously, is still a good studio for Wide Range Recording. The new equipment necessary to introduce Wide Range Recording can be enumerated briefly as follows: a new lens system, an improved microphone, minor modifications of the amplifier system and new equalizers.

To make the change over effective throughout the studio, it is necessary to provide Wide Range equipment also for the monitoring system and the review rooms.

The modifications of the studio equipment are not in themselves complicated. It is highly essential, however, that they should be fully and expertly applied and that the entire Wide Range Recording installation should be thoroughly coordinated inasmuch as only a complete and harmonizing improvement of recording, monitoring and review rooms can result in the full attainment of quality of the improved sound system.

## FROM THE FILM DAILY

The story in back of Robert Fogg's Arctic flight, carrying photos for Paramount News of the Italian Armada's arrival at Cartwright, Labrador, would make a highly graphic and absorbing film in itself. . . . Fogg covered the 1500 air miles between Cartwright and New York in 18 hours . . . twice he was forced down in isolated harbors . . . flew through fog for hours . . . and for a stretch of 100 miles was forced by the fog to fly at the perilously low altitude of ten feet above the St. Lawrence.

With the Arctic aviator was Lou Hutt, Paramount News cameraman, who brought to New York, along with the negative, the first eye-witness account of the arrival of the Italian airfleet at the far northern port. The film these two adventurers brought to New York landing field was tossed to waiting dispatch riders, rushed to the lab and, within four hours, prints were airmailed to thousands of theaters throughout the country. Thus another newsreel epic passed into film history. It seems a pity the public cannot see the graphic tale of this hazardous flight, for to our way of thinking it would be more interesting than the newsreel itself on the screen.



## EUROPEAN SUPREMACY

(Continued from Page 17)

these pictures were reviewed it brought new criticism from the scribes. One went so far as to mention: "The best of our producers are following the Americans hot-foot along the road to technical achievement. Gaumont-British is the most striking case in point. This week we have seen two new Gaumont films in London cinemas. Both these films set up new standards of technical excellence for this country. From the point of view of camera-work and lighting they are magnificent. We have every reason to be proud of them."

By way of news—Eddie Cronjager arrived and started making tests for British and Dominion studios on the MacDonald and Marshall picture. When all was set they found out that time was too short for the production so had to be cancelled. Eddie is talking about returning unless he signs up with Columbia, that is if they pay the necessary do-re-me. Bob Martin is making a picture for an Independent outfit on loan from A. R. P., starring Anna May Wong. Glen MacWilliams just finished "Murder Party" and is on a vacation to Germany. Charlie Van Enger is getting ready to start another after getting many raves over his last picture, "I Was a Spy." After resigning from London Films I signed up with Gaumont-British and, at the present writing, am making a picture called "Channel Crossing," starring Constance Cummings. Bob LaPrelle is my operative cameraman with C. Knowles. Les. Rowson returned with his summer tan from down south and is making tests for his next picture.

Gorings, the book store which caters to Americans, tells me that the demand for THE INTERNATIONAL PHOTOGRAPHER is growing with every issue. The technical photographs of picture production is a big item with the sales. Well lads—cheerio!

So Hollywood, watch out, Gaumont-British will be a name to contend with in the near future.

## IT IS READY!

The book that thousands of miniature camera enthusiasts have been waiting for, the LEICA DATA BOOK, by Karl A. Barleben, Jr., F.R.P.S., Editor, Miniature Camera Departments, American Photography and Personal Movies magazines; associate editor, Leica Photography magazine; formerly instructor of Cinematography, New York Institute of Photography.

The Leica Data Book is a handy compilation of a vast amount of information which Mr. Barleben has assembled in one pocket-size volume to aid miniature camera owners to make BETTER pictures. It is essentially a book to carry with you afield—like your miniature camera it will be your constant companion—to be referred to often, because it contains scores of pages of valuable tables, formulas, data, etc., touching upon practically every phase of miniature photography. Now being printed and ready soon. Place your order for a copy NOW with your photographic dealer—or order direct. Price 50c. The Fomo Publishing Co., Sippo Lake, Canton, Ohio.

## TO CHICAGO

Howard Anderson, well known special effects cinematographer, left for Chicago July 7, to see the Big Show. He expects to be back by August 10. His work is being carried on by Frank Booth, expert trick cinematographer.

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## FLYING WITH THE LEICA

(Continued from Page 13)

Hektor is a speed lens, hence is the logical choice when using deep filters and a slow film, such as DuPont  $\frac{1}{4}$ -Speed Pan or DuPont Infra-D. (DuPont Infra-D has a limited but important use. It should be used with red filters only for maximum results, as its characteristics are of such a nature that it is particularly well-suited to long-range photography and haze cutting. It requires a 64 times increase in exposure when using the majority of Wratten red filters, such as the A, F, and 70).

There is one worry off the photographer's mind when photographing from the air, and that is focusing. He can forget this vital matter entirely—once he has set the lens at Infinity focus, and made certain that it remains there for the duration of the light. If the lens mount is worn or loose, it is a good idea to wind a piece of adhesive tape around it in such a manner that it cannot work itself around out of position. This measure will not be needed with the vast majority of lenses, but it is a good idea to keep this in mind. A roll of adhesive tape, incidentally, will be valuable on many occasions for making repairs or adjustments temporarily.

The matter of exposure, however, presents a different story. In aerial photography we are shooting through considerable space, and in the majority of cases run against aerial haze, which demands the use of filters. Needless to say, a reliable and trustworthy exposure meter should be used to determine the actual actinic strength of the light. Lighting conditions in the air are often deceiving, and the amateur who guesses is merely courting ruined negatives through over- or under-exposure, although in most cases in aerial work it is over-exposure.

Haze will be encountered almost every day in a greater or less degree. What is known as aerial haze consists of tiny particles of moisture suspended in the air. These minute particles reflect an abundance of blue and ultra-violet light, causing the picture to show that characteristic "haze" effect which obliterates everything in the distance. It is merely a case of over-exposure in those sections of the negative where the haze exists—in the distance. Aerial haze is to be found everywhere, and can be cut through with the intelligent use of filters. There is another type of haze to guard against, and that is what might be termed "city haze." This is simply smoke, soot, and dust particles. Being solid matter, no filter in the world has any effect upon it. It will be found over every city and town, and makes photography over these areas somewhat difficult.

To combat aerial haze, filters are used. And while there are several hundred different filters available, the average amateur will have use for only two or three at most, even in aerial photography. The aerial filters, made especially for air work, such as the Aero No. 1, Aero No. 2, Minus Blue, etc., are all very well for the man who specializes in this work, but for ordinary use the usual yellow filters will be found satisfactory. A special U.V. (ultra-violet) filter has recently made its appearance on the market, and is excellent for haze cutting. It is nearly clear glass, that is to say, the color of this filter is so pale as to be hardly distinguishable. It makes a dandy filter for those who photograph at high altitudes, such as in mountain and aerial work. These filters will serve for average aerial purposes, but for extreme distance and haze cutting different tactics will be required. A special film, such as the DuPont Infra-D. and a red filter, such as the A or F, can be used to eliminate haze and bring in distant objects with great clarity. Pictures taken with this combination show a rather dark sky—sometimes black

—but as this is not a serious nor objectionable matter, can be disregarded. Captain Stevens secured his remarkable aerial scenes showing objects over 300 miles away with film and filters of this type. Captain Stevens could not actually see what he secured on the picture—he made the picture by compass, trusting the special film and filter (infra-red) to bring in, through the haze, what his eyes couldn't see.

All filters are available in Leica camera filter-mounts, which makes it a simple matter to select the correct filter needed for any given purpose. Just recently an excellent little combination filter holder and sunshade was introduced. Made of aluminum, it is very light in weight. It slips over the Leica lens and is locked in place by means of a set-screw. The charm of this device lies in the fact that gelatine as well as glass filters are accommodated—this effects a considerable saving in buying filters, especially for test purposes, where it is desirable to try out various types and kinds of filters. The gelatine filters are inexpensive, and the average amateur can easily afford to invest in from one-half to one dozen to play with, whereas the same number in permanent glass would cost a small fortune. This device is manufactured and sold by a Hollywood photographic supply company.

There are numerous public 'planes which take one up for a short hop for a few dollars. Miniature camera owners desiring to try their luck really ought to buy a ride in one of these public 'planes. Photography is possible, of course, in every type of 'plane, but for the sheer pleasure of flying and the utmost freedom for photography, the open cockpit ship is my choice, although the cabin 'plane is more comfortable. If a cabin 'plane is used, the amateur is cautioned to open the window through which he photographs, for the window-panes may often result in out-of-focus or distorted pictures. When one is in an open cockpit, the entire range is easily within aim of the camera lens, which cannot be said about the cabin type of 'plane.

It is surprising what a lot depends upon the pilot in making successful aerial pictures. The pilot whose knowledge of photography is limited will be of little or no assistance, for, not knowing conditions, photographically speaking, he cannot place the ship in the best position so that good shots are possible. I have flown with a number of pilots, but I must say that Clarence Chamberlin receives my vote as the finest pilot, not only from the standpoint of aviation, but photography as well. Recently I took a trip with him and Ruth Nichols in his seven-place cabin ship which he designed himself. The business end of the 'plane consists of the well-known and reliable Wright J6 motor. This trip was a friendly photographic expedition, as it were, for both Chamberlin and myself are Leica enthusiasts. Chamberlin's Leica was equipped with the popular Elmar f:3.5, 50 mm. lens and was loaded with Agfa Plenachrome, while my camera had the Hektor f:1.9, 73 mm. focus lens on it, and a Leica yellow filter No. 3 screwed into it. I was using the DuPont Superior in my camera, for we wanted to compare results and see the advantages of both films for aerial use. Some of Chamberlin's unfiltered shots appear herewith.

The day was clear and bright, but terribly bumpy in the air, as I discovered soon after we left Holmes Airport in Jackson Heights, Long Island. Miss Nichols took the controls as we streaked straight towards the Atlantic ocean. I busied myself with loading the cameras and cleaning lenses, preparing for actual work. We soon came over the stretches of sandy beaches of Far Rockaway, at which point Chamberlin took over the controls and I exchanged places with Miss Nichols. I was now up front in the co-pilot's seat, sitting next to Chamberlin.



### WOODBURY STUDIO MOVES

James E. Woodbury, who for many years has operated a photographic studio in Hollywood, has moved from the Tec Art Studios to 5501 Melrose Avenue, two blocks west of the old location.

"Woody" is probably one of the oldest and best known professional still photographers in Hollywood and during his many years in catering to the motion picture profession he has photographed practically all the stars of the screen.

The new location occupies a corner store and over the door he has placed a slogan, "Prosperity IS on the Corner."

We soon became active, photographically, and I was several times attracted to the complete mastery Chamberlin had over his ship. There is a pilot if ever there was one. With the "stick" between his knees he piloted the ship smoothly, while his hands were busy with the Leica, snapping here and there. We skirted the coast a bit and soon came over New York Harbor, where the Statue of Liberty was waiting to be recorded on film. Chamberlin circled around her and "banked" the 'plane so that I could secure a better angle through the open window. As we were recording Miss Liberty several ships were seen steaming their way to foreign ports, one of them the Conte Savoy, sister-ship to the Rex. We streaked over in her direction and idled past, making several exposures each as we did so.

We now headed up the harbor towards Manhattan, which was veiled in a mantle of "city haze," which has been previously mentioned. Nevertheless we flew over New York City, snapping interesting spots in an effort to see just how much soot and smoke we could cut through. The Empire State tower gleamed in the sunlight straight ahead, like a giant among pigmies. Naturally we headed for it. Chamberlin circled it several times, "banking" and dipping to give us both the best vantage points (how well I remember those "banks"—several times it seemed to me that I was facing Mother Earth squarely, despite the fact that I was comfortably seated in my seat). A sample of the tower is herewith reproduced. Farther along we came to Central Park, where more exposures were made. At this point I again changed places with Miss Nichols, who again took over the controls while I unloaded the cameras. We had shot six rolls of film between us. In less than no time we landed at the field and piled out after over an hour's sight-seeing tour over New York City.

The exposures in most cases were 1/200th of a second. Chamberlin's lens was stopped down to f:6.3 and f:9 at various times, while my lens with the rather heavy yellow filter was set at f:3.2 in some instances and f:4.5 in others. The finishing of the pictures was handled by the Fine Grain Laboratories, Inc., and the prints made on 5x7 glossy paper, ferrotyped.

Chamberlin has long recognized the value of the Leica in aerial work, and he seldom goes aloft without it. He told me that he only wished he had known of the Leica when he made his famous flight to Germany with Levine. I am reproducing a few of his Leica pictures here with his kind permission. A rare individual, Chamberlin. Quiet, reserved, likable. One of the finest men I know, and what a pilot! And he thoroughly enjoys photography with the Leica, which makes him a pal.

It is hoped that the few words and photos contained in this article will be of some assistance to those who have heretofore felt that aerial photography was "out of their range."

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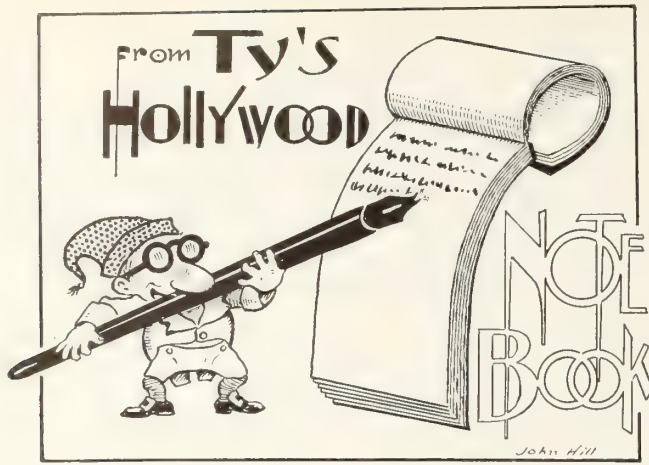
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We feel called upon to quote Ickeymay Ousemay from a recent issue of Motion Picture Daily:

*"Hello, everybody! Here I am, writing a watcha-ma column for Motion Picture Daily! Three cheese for me! I'm famous! Oh boy, won't Walt get Disney when he sees this. Walt's my boss, you know. He says his job is to draw me in pictures and my job is to draw people in theatres. That makes it even—a draw for both of us."*

Recording sound effects at the Disney studio is more than just interesting. It is like a page from a fairy tale. You hear the director asking for a dog bark, or a sniff; for a kiss or a shivery growl . . . for a door slam . . . for a howling wind. The kisses are made by a musician kissing his hand. A bottle and a cork in their hands sound like a monkey chattering. A tin can and a string sounds like Mickey's trousers tearing. They have dog barks in all pitches, deep barks for big dogs; little barks for little dogs. And yips for the frightened dog.

You hear about "comedy-relief," "financial-relief" and now we have "Back-Patting-relief."

Praise and a pat on the back—to pick up the old saw—is always welcome. We each find it necessary to do so much of our own patting that it is a pleasure to find someone—not too busy—to relieve us for a moment to give us a pat. The other day I saw that Bruce, the gas station attendant, was going to give me one and I found myself diplomatically getting in position—so that a bigger one could be given with a minimum of effort. It was so different from the kind I had been getting from myself that it was a welcome change.

To producers who are on the alert for story ideas, Doctor William A. Bryan, director of the Los Angeles Museum, offers an idea that has possibilities. "Why not include," he says, "in the repertoire of motion picture themes some of the stories used by historic people in their plays. If the people of old could enjoy them for countless centuries—why then present-day audiences could find entertainment in them for one evening. And that would serve a dual purpose of giving entertainment along with knowledge of the backgrounds of our customs today." I go even further than Dr. Bryan; suggesting that if producers insist, the love element might be added.

**Have you ever visited the Los Angeles Museum?** Producers and directors should avail themselves of the staff of research specialists in the employ of the institution. Information on any subject may be had on a moment's notice—and this information may be relied on.

Everything is represented, from transportation to the raising of bugs. They actually have a nursery there that is devoted to the study of insect life and its control. Here they raise and breed caterpillars, insects and study their habits. Here they study the various parasites that infest the bugs that in turn carry off men's bread and butter.

Doctor John A. Comstock is curator of this nursery laboratory. Recently he discovered the moth that has been destroying the famed Joshua trees.

Let's take some of the Hollywood Bugs and Parasites down and see what is eating them! Pardon me.

Edward Estabrook suggests that some smart manufacturer should open a chisel factory here. There are already plenty of chisel grinders here to keep them sharp.

Dorothy, the soda-fountain girl, was mixing this and that in a busy way the other day when a quavery old woman ambled up to the fountain, asking, "Do you have ice cream?" Dorothy said yes, whereupon the teary-eyed one said, "A nickel dish, please, . . . without nuts." When the dish was set before her, she looked at it—hesitated a moment—and then got up in a huff and walked out, chirping to herself, "Nerts—not enough for a nickel."

Palma Wayne, who is responsible for the recent story in the Saturday Evening Post about cameramen, did something to me the other evening. Her whimsical attitude toward those little human things impressed upon me the fun in observing them. Without any folderol or gestures, she showed me a niceness in little things that heretofore had been below my scrutiny. She slowed down my whole tempo. She showed me the silliness of the jig-time of the great American frying pan. Thank you, "Waynee."



Wally Beery and Gloria Swanson 'way back during their Essanay days in Chicago. If I am right, that was in 1913, when our Gloria was the light of Wally's eye. That was the time when the industry was still a thing around the corner. Two years or so later they moved to the corner and the flabbergasted stage folks found themselves climbing up trees.

"Humph, I know so much about that, why—say, it would take me a long time to tell you," so sayeth the Hollywood Ham!

"Bob" Newhard, the veteran cameraman, in filming the Ince "Civilization," recalls the time he and Bob Roberts climbed into a tree and while in the tree hung an oil stove under the camera to avoid static markings. They used to hang lanterns, bicycle lamps, moist sponges, or wrap blankets about the camera to avoid the then ever-present static. It was finally found to be the attribute of the film base that was being used.

Gus, the Gull says California climate may be all right but ain't the temperature awful. Gus ain't the usual bird; but he can read, write, smoke a pipe. And he doesn't go near the beaches!



## NEWSREELERS' WORLD

(Continued from Page 22)

have acted for little DEBRIE. How does she look to you, Hollywood? Yes, and she speaks English, too!

With a full program of shooting ahead I shall have to close until next month. Hope you have as few signs of depression around you as we have here in a paradise of the north. ADJO SA LANGE, SKAL!

The ole Swede himself, who hopes as how someone will write him.

RAY FERNSTROM.

## AROUND THE WORLD—No. 3

(Continued from Page 11)

sight. It varies from a kind of ballet, with music and song, to acting, singing and dancing their interpretation of the religious plays, excerpts from the Ramayana (the Buddhist epic poem) in which there are over 3,000 acts. Usually it is the lighter type with festivities and much clowning. Young men and women both take part in the Pwes. The performances take place in the open air, last all night for several nights and are free and open to all. The actors are paid by those giving the entertainment.

There are no religious objections to visitors, who are merely asked to remove their shoes, as do all Buddhists when entering the temples. The temples, pagodas, monasteries and other sacred places are open to all, and a friendly welcome is given by the priests.

At Rangoon is the great Shwe Dagon Pagoda, one of the original Seven Wonders of the World, and the most venerated and the most universally worshipped by Buddhists. Its peculiar sanctity is due to the fact that it is the only pagoda known to the Buddhists which is credited with containing actual relics, not only of Gautama (The Buddha) but of the three Buddhas who preceded him in this world.

Countless pilgrims come from all over Asia to worship at this shrine. It would be impossible to describe in any detail the myriad objects of interest that are gathered in this temple, the enclosure of which covers two square miles.

The main pagoda is represented by an octagonal plinth 370 feet in height and having a circumference of 1,355 feet at its base, profusely gilded with gold leaf from its base to summit. The central spire is surrounded by numerous groups of lesser spires, temple buildings and shrines, devoted to various religious relics.

It took me four days to search out the most interesting bits for filming. Each day I went to the temple wearing golf stockings, knickers and tennis shoes. At the border I removed the tennis shoes, slit the sole of the golf sock and by merely turning back the feet I was able to appear barefooted without being barelegged also. Since all these Burmese go barefooted, the "barefoot rule" occasions them no inconvenience or delay.

Thousands throng the temple grounds at all times, day and night, as they are never closed. And one frequently comes in contact with lepers who frequent all temples and places of worship in the Orient. Therefore, every precaution must be taken and an antiseptic foot bath is recommended several times daily.

Politically, Burma is a province of the Indian Empire, but geographically it is a part of Indo-China. With its three seasons cool, hot and rainy, it forms part of the great Monsoon region. The language is more like that of the Chinese than the Indian languages.

I shall always remember Burma as a country of beauty, and though it has passed through a thousand years of tragedies and oppression, it has come forth light hearted and filled with sweetness.

## BRULATOUR BULLETIN

(Continued from Pages 24 and 25)

## M. G. M.

tion with Selwyn on "Turn Back the Clock" and has been assigned to "Bombshell," Jean Harlow's next starring vehicle. Les White and Harry Parkins have been with Rosson for several pictures now, so we imagine they'll be with him on "Bombshell."

JACK DRAPER is in Mexico for Howard Hawks, picking exteriors and making incidental shots for "Viva Villa," Hawks' next picture.

HAROLD LIPSTEIN, who does most of the photographing in the transparency department, turned in a swell job on the process scenes in "Tugboat Annie." Harold Marzoratti collaborates with Lipstein most ably in this work.

(Note to Editor): I'm not sure whether De Vinna is in Sequoia National Park, Alaska, Louisiana, the South Seas or Africa. He's around some place though, and I'll catch up with him sooner or later. The Cub Reporter.

## LEN ROOS RETURNS

The ceremony required nine days, which must have been some ceremony.

Through devious ways and means, Roos obtained permission to photograph this epic ceremony, and it is the only time in history that a white man has seen, let alone photographed, the ceremony.

Len has developed some lights, which he used to very good advantage—in fact so good that he is contemplating the manufacture and sale of them here. Incidentally Roos has some very complimentary things to say about the quality he achieved with Eastman Supersensitive negative, under very trying tropical conditions.

PAUL PERRY, another world travelling cinematographer happened to be in this part of the country on an expedition with Tom White, and upon completion of his work with White, he joined Roos in Singapore. Paul has also returned to Hollywood.

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(Continued from Page 21)

behind the scenes and make them realize that perhaps it takes a few heartaches for the crank twisters, now and then, to gather screen news material . . . even this old cigar-chewing war horse hung onto his seat as Charlie's two reels unwound on the screen . . . Found that missing beret of mine t'other night . . . it was perched on the dome of Playboy Lippert as he streaked down the boulevard in his new (second-hand) roadster . . . Lip's got all the modern equipment on his long wheelbase puddle jumper, including radio, spotlight . . . and blonde . . . The gang turned out en masse to cover the W. C. T. U. convention at Milwaukee . . . they got some splendid interviews on the ill effects of the alcoholic contents of 3.2 beer . . . and then ankled over to a cool oasis across from the convention hall and experimented a bit with the amber fluid . . . well they didn't exactly agree with the W. T. C. U., but they did admit those steins were a bit cooling after working in the hot sun . . . Emilio Montemuro is out admiring baby buggies . . . and J. Philip Gleason is out hunting up all his missing shirts . . . while calm, staid Eddie Morrison now has a flare for "white ducks" and blue coats . . . Made a trip to Kansas City the other day and while there discovered another speed demon who should be entered in the annual 500-mile auto classic at Indianapolis . . . after alighting from Billy Andlauer's car I realized you gotta have the gods with you to crash so many red lights without getting smacked agin the curb . . . and so back to the balance of my two weeks fishing, but by the time you birds read this I'll probably be setting my tripod, as usual, in the way of Charlie Geis just while he is focusing on his next shot . . . END.

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**OUR SPECIAL SUBSCRIPTION OFFER** of one year for \$2 expires November 15, 1933. If you want the best magazine of its kind sent to you each month send your subscription in now. THE INTERNATIONAL PHOTOGRAPHER, Hollywood, California.

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## THE INTERNATIONAL PHOTOGRAPHER

**SPECIAL OFFER** for limited time only. One year of 12 issues for \$2. The most instructive and interesting magazine published on the making of motion pictures. The International Photographer, 1605 Cahuenga Ave., Hollywood, California.

## MISCELLANEOUS

**COMPLETE COURSE IN FLYING**—If interested in aviation, see Roy Klaffki, 1605 North Cahuenga Ave., Hollywood.

**MINIATURE CAMERA USERS** can get the best Fine Grain Developing and Projection Printing possible. Our terms are not necessarily the lowest, but the quality is the best. Linn Clark Laboratories, 1730 Hillhurst Ave., Hollywood.

**WANTED**—To know of the whereabouts of motion picture relics, documents, or equipment of a historical nature for Museum purposes. Write Earl Theisen, care of International Photographer, 1605 Cahuenga Ave., Hollywood.



## MARY PICKFORD

(Continued from Page 8)

She is loved by her directors for her trait of doing everything she is told. And for that she is noted above all other stars.

Unlike other people of the motion picture who have helpers, she is loyal to them. They stay with her. Mark Larkin, her publicity director, joined her in 1918. Elizabeth Lewis, her secretary, who is so much like Mary Pickford herself, joined the staff a year later. N. A. McKay, her business manager, came to her in 1920. "Oppie" Rahm, her still man, has made the stills of Mary that have appeared throughout the world during the last twenty years. Lucille Lipke, another Pickfordite, has a smile wherein there is much of Mary, herself. They are like a large family together.

On February 5, 1919, she, along with Fairbanks, Chaplin and Griffith, joined to form the United Artists. Her pictures for United Artists were: "Pollyanna," "Suds," "The Love Light," "Through the Back Door," "Little Lord Fauntleroy," "Tess of the Storm County," "Rosita," "Dorothy Vernon of Haddon Hall," "Little Annie Rooney," "Sparrows," "My Best Girl," "Taming of the Shrew," which was her first picture with Douglas Fairbanks, "Kiki" and "Coquette."

This last named picture was her first in sound. Then, too, it was famous as the picture that was made after she had cut off her curls. Those curls had been her trade mark. When her hair was shortened many people received the news like the passing of a cherished thing. Many thought it a sacrilege. In fact, the removing of her curls was almost accompanied with a ceremony. Antoine, the famous French hairdresser, did it in New York and it was headlines in the papers.

She is democratic. She will chat with the carpenter or the electrician with the same ease as with the visiting potentate. The laborer will tell you she is not "high hat." She will stop and he will tell her of the wife and kiddies, while the "important" person stands on one foot and then on the other.

Too, she does not forget. An illustrative example of this was the time that Alvin Wyckoff was filming "Coquette." Mary had not seen him since he had filmed "The Little American"—over twelve years before—but when she heard he was on the set she stopped everything and hunted him up. She found him in the camera sound blimp. They had a talk-fest. "Coquette" was filmed by, besides Wyckoff, Charles Rosher and Karl Strauss.

Now, with regret, we report the lack of Mary Pickford on the screen. She, like so many stars, after years of grind in bringing pictures to the screen becomes tired. She has climbed to the top; the public has given her everything. She has in turn given the public many light moments. In her last picture, "Secrets," there seemed to be an underlying weary quality, just tangible. Even in the more dramatic sequences her old fire was lacking; which, however, is overlooked in the things she brings to the screen. Please make more pictures!

The author gratefully acknowledges the courtesy of Alvin Wyckoff and Lyman Broening for loaning the photographs used to illustrate this story.

## 16 M.M. AT WORLD'S FAIR

A series of 16 m.m. films of exceptional interest and universal appeal, an unusually complete and beautifully photographed version of the Chicago 1933 World's Fair, are now available from Bell & Howell dealers. World-wide distribution is handled exclusively by that organization. These films were made by Burton Holmes, Inc.,

official cinematographers for the Century of Progress Exposition.

A list of the films now available are as follows: "Around the Fair with Burton Holmes"—400 feet, and various other points of interest in 100 foot lengths: "Opening Day Ceremonies," "Streets of Paris," "Indian Village," "Wings of a Century," "The Lama Temple," "The Belgian Village," "Enchanted Island," and "The Fair at Night."

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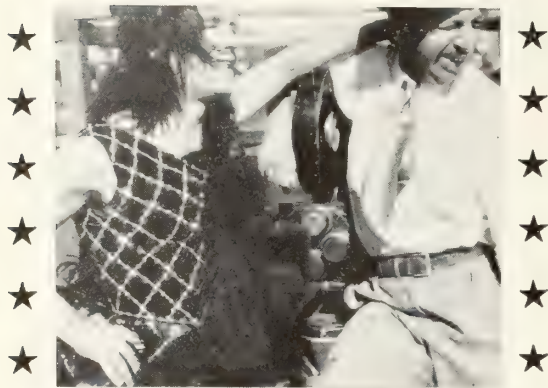
MY FILTERS ARE USED BY ALL HOLLYWOOD STUDIOS



# Out of Focus

By OTTO PHOCUS

## IT'S FUN TO BE FOOLED



The Scream of the Stills

### THE ILLUSION

This beautiful still might be a fragment of early California, but it is not. It is a pastoral and was shot between two fifteen and half pastoral two, at Van Nuys, Calif., on a busy day. Anyone witnessing the photographing of this scene would have noticed that the subjects had heads that were perfectly normal, and not flat on top as reproduced in this little gem. At a distance of about a mile, it would appear as tho Marjorie Beebe and a gentleman were being photographed.

### THE EXPLANATION

It was a busy day at Van Nuys, but the business was going the other way, so we see no business in the background. The gent that photographed this view had been taught when a child to look up until everything seemed all right and then look down. This he did, but snapped the scene when looking down, thereby cutting off the heads. The person on the left is Bobby Dunn, who looks beautiful in any light and retains the charm and personality which goes to make a beautiful scene like this. The gentleman (?) on the right should have known better—moved his arm over a little so it would be in the picture.

### HERE'S THE LOW-DOWN

To avoid illusions know your tricks, but don't play them on other people.

### DO YOU KNOW

That Paul Ivano was born in France and attended the Lycie de Nice. Nice?

That the Camera Supply Company is keeping up with the times? They have silver-plated their store front.

That James Nazareth Giridlian was an instructor in the United States Navy.

That Allen Davey parts his name with Milburn.

That I am the sole owner of my viewing glasses. Frame by Eastman and filters by Paramount.

That the big electric sign on Cahuenga Pass advertises Eastside beer when entering Hollywood and Kellogg's Ant Paste when leaving.

That this department now has two readers and proof of same. I received two fan letters last month. Thanks, Mrs. T.

That Mac Stengler is located at St. Petersburg, Fla. Box 16 A. Thanks, Mac, it came in handy.

That Lyman Broening and Chuck Geissler have completed three advertising shorts for Stewart-Warner Corp. of Chicago.

That Henry Kruse is another father. Another girl.

That the cute little dancing girls at Warner's Studio threw Sol Polito and Bert Longworth into the pool upon the completion of "Footlight Parade."

That Charlie Miller, of Maniller, Philippine Islands, representative of THE INTERNATIONAL PHOTOGRAPHER, increased his order for the magazine 100% last month.

That the Camera Exchanges on Cahuenga are referred to as "chisel shops."

That J. Joseph (Johnny) Mescal has a lot of European backgrounds that were shot for projection backgrounds and will part with same for a monetary consideration.

That Gene Cour writes in to explain that the filter used on the snails in the last issue was as follows: The windows in the laboratory have not been washed for years and the accumulation of soot, grease and weather have made them nearly opaque. So-ooo, he filtered the light thru the dirty window onto the dirty snails and thereby got the dirty results, and finished his letter with a plug for Hartley Harrison's filters.

That after "resting" all summer I worked for four days and a Postal telegram came under my door telling me to take some more rest.

That Jack Warner explained over the Radio the other evening that we had a vegetable that would make us cry. The onion. But so far they have not discovered a vegetable that would make us laugh.

That I can cook vegetables that will make people laugh.

Everyone seems to be in favor of the new deal but some are beginning to wonder if there will be enough cards to go around.

On Monday night, July 25th, President Roosevelt, in a talk over the radio, urged shorter hours. The following morning our organization went on shorter hours.

## NOTICE—CAMERAMEN!

In the realization that many cameramen and photographic technicians may have overlooked the July twenty-second issue of the SATURDAY EVENING POST, in which appears the story, "Aces of the Camera," we wish to announce that we have obtained numerous copies of this issue, and that you can obtain one at the Hollywood Brulatour office merely for the asking.

We respectfully urge every member of the camera-craft to read and re-read this splendid story.

J. E. BRULATOUR, INC.



**EASTMAN PRESENTS**

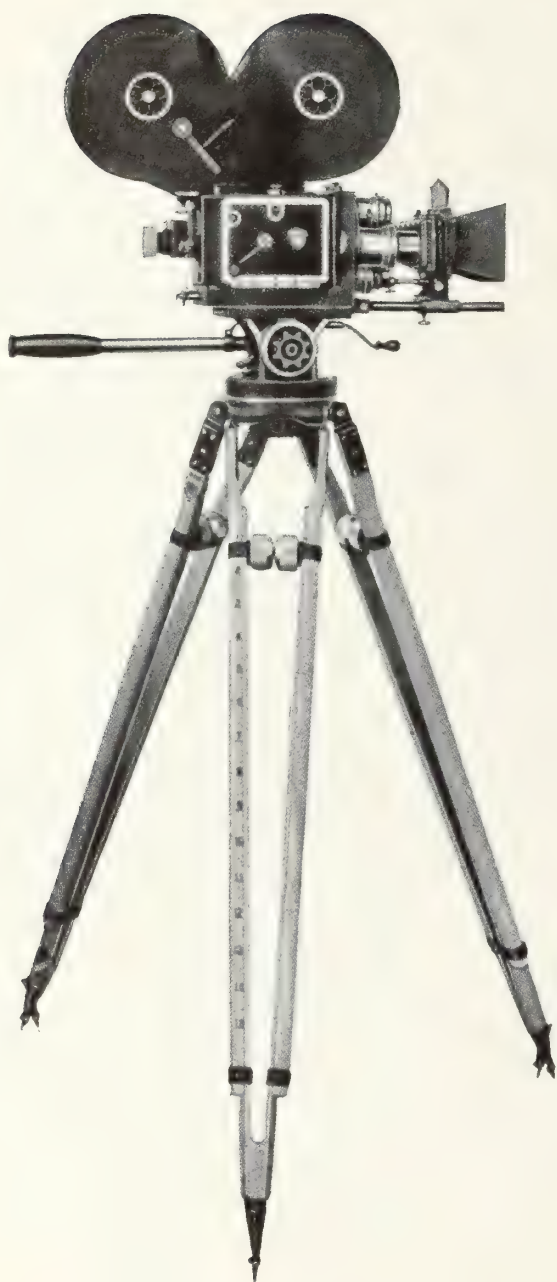
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# INTERNATIONAL PHOTOGRAPHER

HOLLYWOOD

THIRTEENTH YEAR

SEPTEMBER 1933

VOL. 5  
NO. 8



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# INTERNATIONAL PHOTOGRAPHER

MOTION PICTURE ARTS AND CRAFTS

Vol. 5 HOLLYWOOD, CALIFORNIA, SEPTEMBER, 1933 No. 8

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IRA HOKE and CHARLES FELSTEAD, *Associate Editors*  
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A Monthly Publication Dedicated to the Advancement of Cinematography in All Its Branches; Professional and Amateur; Photography; Laboratory and Processing, Film Editing, Sound Recording, Projection, Pictorialists.

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This Magazine represents the entire personnel of photographers now engaged in professional production of motion pictures in the United States and Canada. Thus THE INTERNATIONAL PHOTOGRAPHER becomes the voice of the Entire Craft, covering a field that reaches from coast to coast across North America.

Printed in the U. S. A. at Hollywood, California



## October Offerings

Mr. Carroll Dunning, of Dunning Process Corp., will tell of their new Dunning Color Library Shots for 16 mm. film; color in film, good on any projector.

Associate Editor Charles Felstead will present his second article on "Sound Recording." Recording devices of the several systems will be dealt with.

James B. Shackelford tells in an illustrated article the story of his sojourn among the Cannibals of Australasia.

Earl Theisen, our historical commentator, will unreel a most interesting yarn on the subject of the development of motion picture equipment.

Hollywood's famous Planetarium—the inside of it—will be told by Mr. William Hartman, of the Carl Zeiss Corporation.

The Firing Line left out of this issue because of readjustments, will appear as usual.

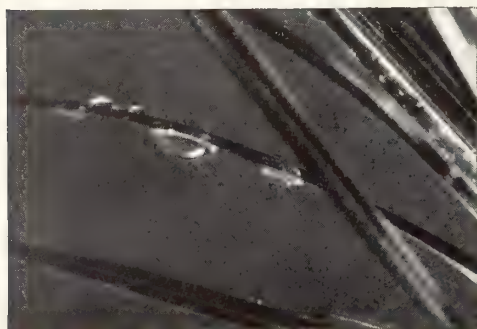
## OUR COVER

The attractive cover this month is made from a still shot by Roman Freulich during the production of Universal's big feature, "The Invisible Man." The picture was directed by James Whale. Arthur Edison, as chief cinematographer, did an extraordinarily fine bit of photographic directing on the production. King Gray was operative cameraman; Jack Eagan, assistant; Bob Lazlo, props.





*When 1/5000 of a dew drop*  
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● WATER vapor is present in every bit of air we breathe. Ordinarily, we cannot see it, cannot feel it. Yet inside a lamp bulb, General Electric scientists found that mere *traces* of this invisible water vapor become as destructive as a mighty flood!

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# STORY OF THE NEWSREEL

The author desires to thank Geo. J. Lancaster for his co-operation and the Los Angeles Museum and C. M. Effinger for use of photographs.

By EARL THEISEN, *Honorary Curator L. A. Museum*



That constitutes an order for tomorrow's make-up?" der from the newsreel editor to his cameraman, an order to get a story for the screen! It is this command that takes the newsreeler to places where often his life hangs by a thread—where the risks are against him. He faces more danger than the subject he photographs.

Wherever you find conflict, or trouble, or

"What can we expect lives being lost—there in the maelstrom you'll find the newsreeler gladly doing his duty for the picture-going public. Where you find a daredevil gambling with his life, there you will find a "Knight of the Tripod." His element is action! And by action he lives!

Today, within a few hours, you may see on the screen events from all corners of the earth; thanks to the perseverance of the newsreeler. War in the Orient, a flight in the Arctic, or the newest of the new are put on the screen in an unbelievably short time. Time is an important thing to the newsreeler; he will steal, break bones, blacken eyes—anything to be first with his picture to the screen. To beat the opposition newsreel is his law. All newsreel business is transacted by wire and telephone; all films are sent by plane.

The ability of the motion picture to tell a story with more facility than printed words was realized long ago. In fact, the first motion pictures were in the form of news stories.

Edison's stories on the screen in the early nineties, as well as stories of other pioneers that followed, were topical in nature. The most famous of the early topical stories were those made by the Lumiere Brothers. That was because their camera was small and light; it could be taken anywhere, while the other cameras of this period were anchored to the studio floor. The news had to be BROUGHT to them while the Lumieres WENT to the news.

At the McKinley inaugural parade in 1896, the history of newsreel photography was two years old. At this parade could be seen the cameras of E. H. Amet, Biograph, Edison and Lumiere from France. In the manner of present day newsreelers they could be seen struggling for points of vantage for their cameras.

After political wire pulling Amet had built a stand that was twenty feet high for his camera. A position on this stand was a coveted place. Spoor, who was Amet's partner, unknown to Amet sold a place to the Frenchman for \$50. Already the desire had been born to get the best picture. Already bribery and intrigue had entered and were justified in the newsreelers' code in their pursuit of the first picture.

Through the prestige of the McKinley parade picture, motion pictures acquired a new dignity. Biograph went even further; they showed pictures of McKinley at home. Through it, Biograph enjoyed the privileges of a long

run at Hammerstein's Olympia Music Hall. This, by the way, on October 12, 1896, was the premiere showing of Biograph pictures.

On the same program was the famous picture, "The Empire State Express." Of this picture Terry Ramsaye says: "Strong men stood up and shouted and frail women screamed with delicious terror as the great locomotive of the screen came comet-like into a rushing close-up amid the uproar of the orchestra." Mind you, this was in 1896, when pictures as a novelty had become established in many of the large theatrical houses. They were newsreels.

Two years earlier, in July, 1894, the first prizefight picture was being staged for the Edison camera. This was staged under the enterprise of Otway and Grey Latham, Samuel Tilden, Jr., and Enoch Rector, who made a special camera at the Edison plant that would hold 150 feet of film, since the regular Edison camera of this time held only 50 feet, which was not sufficient film to record a fight round. The prizefight, which was between Michael Leonard and Jack Cushing, went in the peep-shows to the picture-going public in a length of six rounds or about 1000 feet of film. Shortly, this fight was followed by a more pretentious effort. James Corbett, then the heavyweight champion, agreed to fight Pete Courtney for the Latham-Tilden-Rector enterprise.

The Latham Brothers continued showing their films in the Edison Kinetoscope until they prevailed upon their father, Woodville Latham, to build a machine that



When the recent storm broke at Shanghai between the Japs and the Chinese the newsreelers were in the thickest of it. Showing Newser, Merv Freeman, where the bullets rained.

would project pictures on a screen. After many difficulties, on May 20, 1896, they had completed a crude projector, at which time they showed at 153 Broadway another fight picture between Young Griffo and Battling Barnett. That, by the way, was the first showing on Broadway of pictures to a screen. It brought wide acclaim for the Lathams. They were the heroes of the hour! Life size pictures on a screen gave birth to a new desire for a picture hungry people.

In the meantime Edison had prevailed upon celebrities to come to his studio that he might make "pictures that moved" of them. Such persons as Buffalo Bill; Sandow, the Strong Man; Madame Bertholdi, the contortionist; Carmencita, the dancer; Broadway favo-



rites and other noted persons were duly brought before the Kinetograph.

Such is the beginning of newsreeling; it is the beginning of the motion picture itself!

In the course of the next few years, while the news idea continued on its way, another form of motion picture crept in—that was the dramatic story. While the motion picture was learning to tell a story it was supported and abetted by the news stories that were brought to the screen. And, wherever things happened, the camera could be found.

In 1898, Edward H. Amet made the "Sinking of Cervera's Fleet," which was one of the highlights of the Spanish-American War. At the time, as newsreelers have since done, Amet claimed to have been on the scene and actually photographed the battle. Now, however, with twinkling eyes, he relates how he made a pool in the back yard of his home at Waukegan, Illinois.



A still of 1898 showing how E. H. Amet made "The Sinking of Cervera's Fleet" in miniature.

After the method of the best trick photography craftsmen today he constructed a miniature set with a painting on canvas for a background, and built mountains that were similar to those at the Bay of Santiago de Cuba where the battle took place. He made replicas of the American and Spanish ships—and then he manipulated the ships in battle!

Amet was busy; by means of firecrackers tied to the ships which he set off by punk held by wires that ran under the water out of camera lines he made the ships fire upon each other. Clouds of smoke arose, waves rolled, and then a ship would sink. Though the picture was only fifty feet in length it brought the audiences to the edge of their seats. It dramatized the battle for a news hungry public.

The picture was so realistic that one officer who participated in the battle later said, upon seeing the film, that while it was real, he wondered how Amet could have photographed the battle since it occurred at night. Amet replied: "I used moonlight film and a six mile lens."

Another picture that made newsreel history was the Biograph version of the San Francisco Fire in the summer of 1906. George E. Van Guysling, who was then the manager of the Biograph Company, when he received news of the fire wired to O. M. Gove, who was the Los Angeles representative of Biograph, to go to the fire area and get a picture. With the exception of wrecked buildings and debris, Gove could not get anything suitable. So Van Guysling decided to fabricate the burning city. He had some panoramas of San Francisco which he turned over to Frank J. Marion—the same Marion

who later with Samuel Long and George Kliene formed the Kalem Company. Marion, with the assistance of Joe Harrington, who was the Biograph scenic artist, and F. A. Dobson built a miniature of San Francisco from the cardboard of shoe boxes. It was built on a large table. From the panoramas they made the city and land contour as complete as possible and then set fire to it. As the great San Francisco burned—on the table top—the cameras recorded it.

It was a scoop; the Biograph pictures were "a beat." They were running in all their realism of a burning, crashing city at the Keith Union Square just four days after the disaster. Harry Miles, who had an exchange in the fire area, though he had lost everything else, had managed to get some authentic pictures of the fire. Miles hurried with his pictures to New York; but in the code of newsreelers "get the picture while hot—regardless," Biograph scored. They preceded Miles to the screen by one day. As a newsreeler would say: "Biograph scored a beat."

And the Biograph picture was realistic! Eugene Schmitt, who was the mayor of San Francisco at the time of the fire, when he saw the picture, thought it authentic. And so did Senator James Phelan, the famous California U. S. Senator, who viewed the pictures at the Biograph Studios. Van Guysling offered the pictures for what they were worth; he neither claimed them to be authentic, nor did he claim otherwise. Prints from the picture sold to other movie makers with a profit to Biograph of about \$35,000, big money in those days.

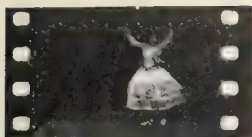
Another picture made at this time, portraying a newsreeler's ritual of getting the picture first was the hanging of Mary Rogers in Vermont. She had drowned her husband. The newspaper headlines were lurid and public opinion ran high. The interception of the governor



F. A. Dobson putting out the Biograph version in 1906 of the San Francisco disaster. The city had been fabricated of shoe boxes.

had been asked. There was doubt until the last as to whether she would hang. So Biograph got pictures of the prison, a description of the hangman and Mary Rogers and proceeded to make at the Biograph Studios, New York, using doubles, two versions—one showing her hanged and one showing her going to freedom. They were ready to score another scoop. That is the accepted method today in the newsreel world of getting news to the screen while hot. Elections and other events wherein the final outcome is doubtful are made in two versions prior to the happening. That is the answer to the question of the audience when they go to the theatre a few minutes after a football game and see the announcement on the screen of the victorious team.

(Continued on Page 24)



From Edison's "Carmencita, the Dancer." A newsreel of 1890.



Sandow, the strong man made about 1890.



Hand perforated film of the early nineties. It was a trick picture.



Full size Latham film of 1895. There were no shutters on their projector; the light being turned on by contact through the holes seen on the frame line.



Lumiere — McKinley inaugural parade 1896. Single perforation film.



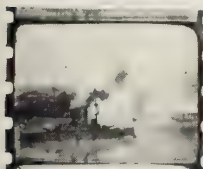
Edison picture of McKinley's parade.



Enoch Rector's Corbett-Fitzsimmons fight in Nevada on March 17, 1897.



A Madison Square fight of 1898.



Amet's Spanish-American War picture of 1898.



Early wide-film made by Gaumont in 1898. It was a topical picture.



"Hanging of Mary Rogers." From a Biograph peep-show card picture in 1905.



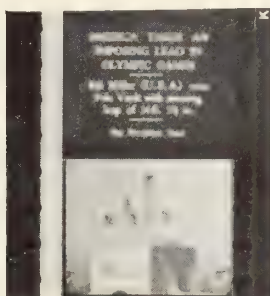
The Patents Company in 1908. Left to right: George K. Spoor, Samuel Long, Albert E. Smith, Wm. Selig, J. J. Kennedy, Wm. Scull, Geo. Kleine, Edison, Richard N. Dyer, J. A. Berst, H. N. Marvin, J. Stuart Blackton, Frank Marion.



The Delhi-Durbar of 1910, made by Kinema-Color.



The Fox-Case Movie-tone showing sound track and picture on the same film.







# MOTION PICTURE SOUND RECORDING

By CHARLES FELSTEAD

(The first of a series to run twelve months)

Almost overnight the science and art of recording sound to accompany the motion picture became a grown thing. About five years ago there was a time when it seemed that one day there was only the silent motion picture, and that the next day it had combined with the science of electrically recording sound to become the sound motion picture.

The industries of motion picture producing and sound recording had evolved independently to high degrees of perfection; and prior to their union there seemingly had been no connection between them. Naturally, the uniting of these two industries was so unexpected and revolutionary that the motion picture business was thrown into turmoil; but being a progressive and far-seeing industry, it was not long before it had absorbed this new wonder as an integral part of itself.

A sound recording and reproducing system represents merely a delay circuit that is designed to store sound in such form that it can be reproduced at any future time. In the ideal recording and reproducing system, the reproduced sound is so nearly identical to the original sound that the human ear is unable to detect any difference in quality. Such perfection is not realized in the present sound pictures; although it is closely approached.

The device in the recording system that produces this time delay is the film, or wax, recording machine. This machine records the sound either on the edge of a strip of motion-picture film by means of a modulated light beam, or on a soft wax record by the action of a cutting stylus; and the product of this recording process can be preserved indefinitely. The film, or the wax record, serves as the delay material.

To accomplish this recording of the sound, it is necessary to have a means for translating sound vibrations into electric currents, equipment for amplifying and controlling these electric currents, and then a device for transforming this electrical energy into mechanical energy so that it will leave a permanent record of itself. Such a recording system, together with its associated and complementary equipment, forms what is known as a single recording channel.

In the reproducing system, there must be a means for translating this permanent record of the sound back into electric currents, other equipment for amplifying and controlling these currents, and finally a loud-speaker unit for reconvertng them from electrical to acoustic energy that corresponds faithfully with the original sound. A motion picture theatre has at least one complete reproducing system of this sort associated with its projection machines.

## *The Evolution of Sound Recording*

The development of the electrical apparatus for translating, amplifying, transmitting, recording, and reproducing sound was the result of a slow and tedious evolution extending over a period of many years. The first apparent beginning of this development was in the invention of the telephone by Alexander Graham Bell in 1876, which provided investigators with a means for converting sound waves into electrical waves, of transmitting that

electrical energy a distance, and then of converting it back to sound waves.

Following closely on the invention of the telephone came the phonograph of Thomas A. Edison in 1877, and the vacuum tube developed through the efforts of John Ambrose Fleming and Dr. Lee DeForest in 1906.

The first of these two devices made it possible to record sound directly in a groove on a tinfoil-coated cylinder, from which it could be reproduced at will. Wax cylinders were later developed, and the sound engraved as a groove of varying depth. The second device provided power, the connecting link between the telephone and the phonograph; for it made possible the amplification of the weak speech currents of the telephone to a useful value.

But even so, this connecting link, the audio-frequency amplifier, was of no value in sound recording until the subsequent development of an electrical recording device provided a means for recording the electrical equivalent of the sound wave. Then the sounds picked up and converted to electric currents by the microphone of the telephone could be transmitted and controlled before recording, providing great flexibility. This made possible the modern high-grade phonograph recordings, or "electrical transcriptions."

In the days of direct sound recording in the producing of phonograph records, an orchestra had to be crowded closely about the sound collecting horn because of the small acoustic power available. With the development of electrical recording, this inconvenience was eliminated; and an orchestra could be spread out in the arrangement most satisfactory for the director. Then, by regulating the amount of electrical energy received from each of the several microphones, a perfectly balanced recording could be obtained.

This improvement in the ease of recording and the superior grade of records that were produced rejuvenated the phonograph industry at a period when it was almost passe. At the same time, it made possible the Vitaphone, the sound recording system that Warner Brothers used in the making of the first outstanding sound pictures. The earliest of these pictures, "Don Juan," was exhibited in New York, August 6th, 1926.

Then other companies came forward with recording systems that involved other inventions, such as the Aeolight, the rocking mirror, the light wave, the condenser microphone, the Selsyn motor, the all-important photoelectric cell, and an endless array of other devices. Some of these inventions were new; while others were new only in their application to this infant industry of sound pictures.

## *The Several Methods of Recording*

Being still a comparatively new science, sound recording has not yet been simplified to one single method of recording; so at present there are a number of systems in use. As the several methods of recording sound differ principally in the recording device, that portion of the recording systems will be emphasized in the descriptions. The four main systems now in operation are known as



the Western Electric Sound Recording System, the RCA Photophone, the Fox Movietone System, and the Warner Brothers Vitaphone.

The Western Electric system employs both motion-picture film and wax discs as its recording mediums. The RCA Photophone and the Fox Movietone use only film as their recording medium; while the Warner Brothers Vitaphone records only on wax. This latter system will not be discussed in these chapters because it employs practically the same equipment as is used in the wax recording portion of the Western Electric system.

Actually, there are three distinctly different types of sound record: the wax record discs, the constant-density-variable-area film sound track, and the variable-density-constant-area film sound track. The hard wax discs (which are processed from the soft wax discs used in recording) resemble phonograph records; but they are larger in diameter and are rotated slower. The two types of film sound track are recorded directly on the edge of the film that carries the picture, which provides them with a distinct advantage over the wax discs.

The sound track of constant density and variable area is produced by the RCA Photophone recording system; and this type of sound track closely resembles the serrated edge of an irregular saw blade. The saw-tooth portion of the sound track is of a uniform black color on the positive print, and the unexposed portion of the track is almost pure white.

The Photophone sound track is produced by the action of a rocking mirror, which reflects light from a light source of constant intensity through a narrow slit of fixed width and length onto the moving film. Speech currents from the recording amplifiers causes the mirror to pivot, or "rock," so regulating the amount of light that is reflected onto the film. This device is a specialized form of mirror galvanometer.

The other type of film sound track, which is of variable density and constant area, is formed of bands, or striations, of shade, varying from gray to almost jet black, that extend across the whole width of the sound track. This type of track is produced by the Western Electric and Fox Movietone recording systems, and by most of the recording units now being manufactured by smaller companies.

The Western Electric system forms the track by means of an arrangement like a vibrating shutter that permits more or less light from a source of constant brightness to fall on the moving film; while the Movietone system produces the track by exposing the film to a light source that is continually varying in brilliancy.

In the first place, the intensity of the light source is constant and the aperture through which the light reaches the film is varied by the speech current. In the second case, the light source varies under the influence of the speech current and the aperture is of fixed dimensions. The effect on the film is the same.

#### *Reproduction from Film*

The two types of film sound record are of exactly the same width; and light shined through either of them has identically the same action on the photo-electric cell in the reproducing equipment. This feature allows them to be used interchangeably without modification in the projection apparatus. Either type of sound track shuts off a varying amount of the steady light that is shined through it when it is being reproduced.

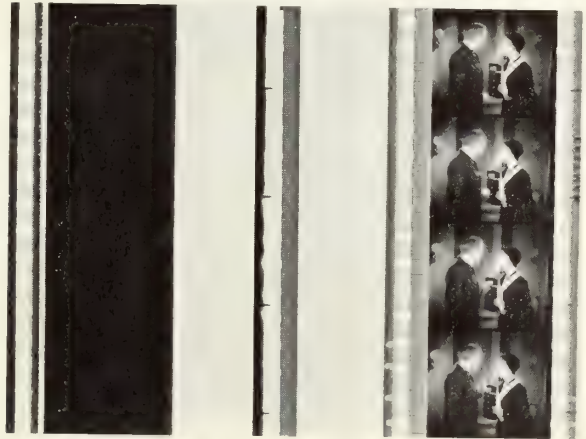
The light source in the projector is of constant intensity and the aperture that permits the light to pass through the sound track on the film is of fixed size; so as the film travels past the aperture, it shuts off more or less of the light that shines through it onto the

photo-electric cell. The amount of light that reaches the cell at any instant is dependent on the degree or amount of transparency of the particular portion of the sound track that is passing the aperture.

With the variable-area sound track, it is the ratio of exposed to unexposed sound track that regulates the amount of light the film will pass. With the variable-density sound track, it is the density of the track that governs the amount of light that passes through it. Since the electrical output of the photo-electric cell varies directly as the amount of light that shines on it, the electric current supplied to the reproducing system will be greatest when most light is transmitted by the sound track.

#### *Wax Recording and Reproduction*

The inscribing of the sound track on a soft wax record, as is done in the Vitaphone and Western Electric recording systems, is more of a mechanical process



1. A section of variable area (Photophone) sound track, showing sound recordings of moderate intensity.
2. Variable density (Western Electric or Movietone) sound track having the uniform striations that are produced by a sustained note.
3. A strip of picture and sound track from a recent Universal picture, illustrating the manner in which the sound is printed adjacent to the picture.

than are the other methods of recording. Here the speech current from the recording amplifiers is fed to an electromagnetic recorder that is provided with a cutting stylus.

The soft wax blank revolves beneath the recorder, which travels radially across the face of the disc. During the movement of the recorder, the cutting stylus oscillates from side to side under the influence of the speech current, producing a wavy spiral groove of constant depth in the wax.

The reproducer for this form of sound record resembles the reproducer of an ordinary phonograph; and it is provided with a pivoted holder that carries an ordinary phonograph needle. As the needle follows the wavy groove in the hard wax record, which is evolved from the soft wax blank by a process of electroplating and stamping, it is oscillated from side to side in a duplication of the motion that formed the groove.

This lateral movement of the needle generates a very small electric current which, after sufficient amplification, is supplied to the theatre loud-speaker units. The generated current is a reasonably faithful copy of the recorded speech current.

However, the difficulty of securing exact synchronization between the sound record and the picture, and

*(Continued on Page 39)*



# RANDOM NOTES ON THE ELEMENTS OF MINIATURE CAMERA PHOTOGRAPHY

By KARL A. BARLEBEN, JR., F.R.P.S.



The miniature camera is no longer an experiment! It has been abused, scoffed at, and ignored! It has withstood the test of time, and has finally arrived at the point where it is today hailed by *all who know photography*—the others don't count anyway. The baby camera can be seen in the hands of tyro and expert alike, the rich man, the poor man, the snapshotter, the highly skilled photographic technician. The world has finally come

to the conclusion that the miniature camera is practical and useful, no longer regarded as a toy, or a passing "fad."

Unfortunately—or fortunately, as you see it—miniature cameras require a somewhat different technique and handling, and it is this which has proven to be the stumbling block for so many who have not been willing to learn the new methods. Miniature photography might be said to have introduced a new form of photography, and those who have not kept astride with the modern trend are hopelessly old-fashioned and out of date. Previous to the introduction of the miniature camera, who ever bothered about fine grain? Such a thing was unheard of, for there was no need to worry about it with the larger size negatives. Today all photographers, still and motion picture cameramen, are "fine grain conscious" so to speak because the miniature camera indicated the necessity of fine grain. Can anyone deny that photographic results are better today than they were five years ago? We can therefore thank the miniature camera for many of our improvements and better technique in photographic matters.

Miniature cameras are still cameras which produce a negative area not greater than 3 x 4 cm. (1¼ x 1⅝ths in.), strictly speaking, although many enthusiasts using the full vest pocket size negative (1⅝ths x 2½.) consider themselves miniature workers—but let us not split hairs. Miniature cameras are roughly divided into two groups: those using the standard vest pocket size roll film (No. 127), and those accommodating standard 35 mm. motion picture film. Of the first class might be mentioned the Dolly, Makinette, Rolleiflex, Picco Chic, Foth Derby, Pilot, Pupille, Vollenda, Ranca, Mickey, Eho, Kolibri, Baby Ikomat, Weeny Ultrix, Perkeo, and Korelle as representatives. Of the second class there are comparatively few, although they are exceedingly popular for obvious reasons. The Leica, Contax, Peggy, Memo, and Korelle-K are the chief representatives of this class in the United States.

This second class is subdivided into two groups: those producing the standard silent motion picture area, ¾ x 1 in., and those producing a double standard area, 1 x 1½. The Memo and the Korelle-K make the single frame area while the Leica, Contax, and Peggy make the double frame area.

And if you want to get really accurate on the subject, there is also a camera accommodating standard 16 mm. cine film; the Mini-Fex.

However, for all practical purposes, it becomes diffi-

cult for the individual, particularly if he is a beginner, to make a proper selection. All miniature cameras available in America are highly efficient and can be relied upon to produce the results. Naturally the workmanship and quality are bound more or less by the price, so after the individual has decided about how much he wishes to pay for a camera, the next step is to determine whether it should use roll film or cine film. Let us, for a moment, pause to consider just a few of the "talking points" of each.

Roll film is of course a well-known medium, and can be purchased on a moment's notice in nearly every drug store—and there is a drug store on every corner these days. Score one for roll film. One can always get a supply of fresh film, no matter where he is. Then, too, roll film does not require rolling onto spools or into magazines—it can be taken from the carton and loaded directly into the camera. Score two. Every commercial finisher—and some of them certainly are finishers—is equipped to handle roll film, which means that one does not have to scout about seeking a special processing station. Score three. Economy means much these days, and the miniature camera, due to the small negative area produced, gives sixteen pictures to the roll instead of eight as is customary in the usual run of folding cameras—in other words, one gets twice his money's worth with the miniature camera. Score four.

As for standard 35 mm. film stock, we find first of all that a variety of emulsions are available. The user can select the type of film best suited to his individual needs of the moment. Thus for ordinary snapshots he can use ortho film, for color correction, filter, or night work he can use a pan film, for micro-photography there is a contrasty pan film—DuPont ¼-speed pan, for copying black and white material such as book pages, legal documents, etc., where strong contrast is desired, there is regular positive film to be had. Even infra-red sensitive emulsions are available for long distance work, haze-cutting, and trick effects.

A film for every purpose would be a good slogan for motion picture film as used in miniature cameras. Roll film cannot begin to compare with cine film in this respect. A big score one. Cine film is more economical than roll film, for sixteen or eight exposures per foot of film may be made—and you know how much a foot of film costs. A big score two. Cameras using cine film ordinarily accommodate sufficient film for from 36 to 50 exposures per loading—in one case, the Korelle-K, 100 exposures are made to one loading. This means that cameras have to be re-loaded less frequently. A big score three.

It can be seen where the beginner would have difficulty in making a selection from the standpoint of sensitive material. It appears that the more advanced workers lean towards cameras using motion picture film while in general, the snapshotter with little or no experience likes the roll film camera because of its greater simplicity. This is not a rule, understand, but merely a rough estimate.

Fine grain is of vital importance in miniature camera photography, and he who is not willing to realize this



fact can never hope to attain success. The entire foundation of small camera work is laid upon this fine grain problem. We are not yet out of the woods, for better results can and will be produced right along in respect to fine grain. As it is, excellent progress has been made, and today there are at least two dozen fine-grain formulas available, any one of which will keep the grain bugaboo down to negligible proportions. A fine-grain emulsion, too, is considered quite necessary, and in this connection it is well to remember that the slower ortho films have less grain as a rule than the pans. The speed pans are of a necessity somewhat grainier, yet they will find use under certain light conditions. But even with these speed pan emulsions, fine grain results may be secured through the proper and careful selection and use of developing formulas.

The optics on miniature cameras are of the highest type, and some cameras even permit the interchange of lenses, which makes it possible to use speed and telephoto lenses along with the usual two inch focus lens which is usually supplied as regular equipment. Those who know about hyperfocal distances are apt to become somewhat careless in focusing their cameras. While it is true that shorter focus lenses produce a greater depth of field, it must not be forgotten that actually *only one plane is actually critically sharp*—the distance the lens is set for. In contact prints the entire picture-area may appear sharp, due to the depth of field possessed by the lens, but when enlargements are made, this depth rapidly falls off in proportion to the degree of enlargement. The lens should therefore be critically focused upon the principal object in the picture, and in order to do this accurately, a distance meter or range finder should be used. Some cameras provide an automatic focusing device which incorporates a range finder coupled to the lens so that as the lens is focused, the range finder immediately indicates when the lens is in proper focus. Do not trust too much to judgment in estimating distances—it is risky business.

Lenses require cleaning from time to time, and about the most satisfactory and least injurious material to use for this purpose is Japanese lens cleaning tissue, a soft, fibrous paper which is obtainable in any optical or photographic store at an insignificant price. Chemicals should by all means be avoided. It often happens that certain chemicals, such as Xylol, for example, will seep in between the glass elements and dissolve the canada balsam, thus ruining the optical characteristics of the lens.

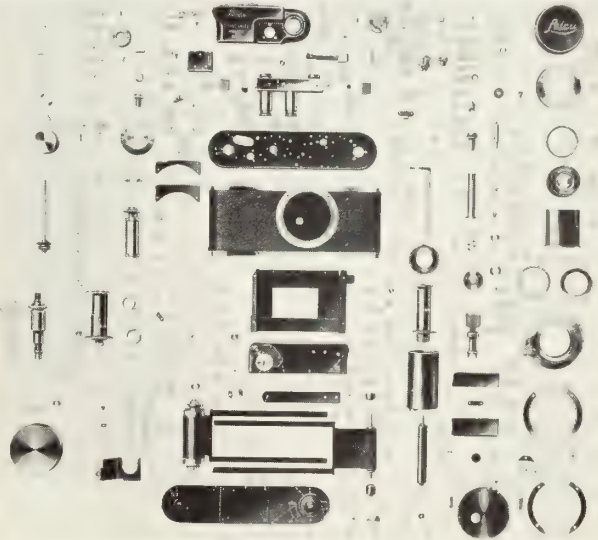
Filters require the same care as lenses, especially the gelatine-cemented-between-glass type. Keep them clean and do not expose them to excessive heat or moisture.

A sunshade is of greater importance than can be imagined. An exposure without a sunshade should never be made, for the shade eliminates flatness and lack of contrast. The Hollywood Camera Exchange makes an ideal combination sunshade and filter holder for the Leica camera which is a dandy, and every owner of a Leica should certainly get one—and be sure to use it. Try a shot without a sunshade, then do the same scene over with a sunshade in place over the lens. I'm certain you will note the difference and never again do without the shade. Sunshades of all kinds are available, or if you will, you can make your own, but naturally the manufactured type are to be preferred.

Exposure is the one big nuisance in the life of nearly every amateur photographer. The human eye has often been proven a poor judge of photographic light—in fact the light we see by is not entirely the same light used to make the photographic impression on the emulsion. How then can anyone claim to *know* exposures? True, with experience one can determine fairly accurately the

proper exposure, but were it not for the more or less tremendous latitude of the photographic emulsion, our efforts at judging photographic light conditions would be indeed feeble.

How can one be sure of exposure? As far as we have progressed in this matter, I believe I'm safe in saying that the photronic cell meter such as the Weston, is the most accurate and reliable. These meters are actually marvels of accuracy, and because of this, they are exceedingly popular with not only amateurs but professional workers as well. Meters of this type are available for studio and laboratory use—a box-like affair



Who would have believed that the tiny Leica could contain so many parts. First time published.

which is extremely sensitive and in general photographic use. Of the latter there are special types for still cameras, amateur cine cameras, and just recently a model was introduced calibrated for use with the Leica and other miniature cameras. There is really no excuse for not owning one of these meters, and take my word for it, if the best results are to be expected, it will be found an absolute necessity. Why guess when you can be sure?

In short, then, miniature photography can be figured upon a scientific basis. It is practical. It is economical. It is reliable. Failure or success in this field amount to merely the manner in which it is attacked. Excellent results can be obtained from the very first by the individual who takes the time to learn something about it. But those who are not willing to adopt the new ways, nor treat miniature photography as a new science, will be out of luck, to put it bluntly.

Try miniature photography. If you follow the few simple rules I can assure you that you will never return to the larger camera.

## BIG MOVIE PROGRAM

With a battery of 75 portable 16 mm. sound-on-film projectors, just purchased from Bell & Howell Company, the Plymouth Motor Corporation is embarking on its most ambitious program of selling via movies.

Seven one-thousand-foot talking pictures, built for the most part around human interest and dramatic stories illustrating the advantages of the Plymouth car, will be used with the projectors.

The pictures are designed not only for special dealer meetings, sales conventions, and for use by retail sales managers, but also for special showings to the general public.





# LIGHT FILTERS

## FROM THE CINEMATOGRAPHERS VIEW POINT

By EMERY HUSE and NED VAN BUREN\*

A Series—Part III—Filter Factors



It is improbable that any practical cinematographer thinks of the use of light filters without giving consideration to the "filter factor" of whatever filter he is desirous of using. The filter factor, or multiplying factor, of a filter is defined as that factor by which an exposure without a filter must be increased when the same degree of exposure is desired for the same scene when photographed through a filter. For example, if a filter has a factor of 4, such as the 3N5, the proper use of it calls for an increase in the exposure over that normally given without a filter of four times. Let us assume that an exterior scene is to be photographed on Super-sensitive Panchromatic film using the 3N5 filter. Further, let us assume that with normal cranking speed and normal shutter opening a stop of  $f/8$  is considered normal without a filter. With the 3N5 filter it is necessary to increase the exposure of the unfiltered condition by the factor of 4. The usual procedure calls for an adjustment of the lens stop, thus allowing the cranking speed and shutter opening to remain constant. To increase the aperture so that four times the amount of light gets through the lens means that it is neces-

sary as that quoted for the 3N5 filter. Many have factors of  $1\frac{1}{2}$ ,  $2\frac{1}{2}$ , 3, 5, 8, etc.

Filter factors have been determined experimentally for Eastman Super-sensitive Panchromatic film to daylight illumination for the most common filters useful with this emulsion. These data were acquired by sensitometric determination for both filtered and unfiltered exposure conditions. The factors represent the ratio of speed for a definite exposure condition between the two sets of tests. These sensitometric factors when applied practically in a camera give excellent agreement between the practical results and the theoretical values. For convenience these filter factors may be expressed in terms of lens stops and computed into tabular form in the manner shown in Figure 7. These data have been previously published by Huse and Chambers.\* It will be observed from Figure 7 that the table lists the filters across the top, the filter factors across the bottom, while the extreme left hand column gives a series of arbitrarily chosen lens stops under the heading "no filter." All numbers represent "f" values. The use of the table is extremely simple. Suppose a given scene is to be photo-

No Filter	Aero 1	Aero 2	3N5	5N5	12	G (15)	23A	A (25)	F (29)	ND 0.25	ND 0.50	ND 0.75	ND 1.00	
1.4														
1.8	1.6													
2.0	1.8	1.6								1.5				
2.3	2.0	1.8			1.4					1.7				
2.8	2.5	2.3	1.4		1.8	1.6	1.6	1.4		2.1	1.6			
3.2	2.8	2.6	1.6	1.4	2.0	1.8	1.8	1.6		2.4	1.8			
3.5	3.1	2.8	1.8	1.6	2.2	2.0	2.0	1.8		2.6	2.0	1.5		
4.0	3.6	3.2	2.0	1.8	2.5	2.3	2.3	2.0	1.4	3.0	2.3	1.7		
4.5	4.0	3.7	2.3	2.0	2.8	2.6	2.6	2.3	1.6	3.4	2.5	1.9	1.4	
5.6	5.0	4.5	2.8	2.5	3.5	3.2	3.2	2.8	2.0	4.2	3.2	2.3	1.8	
6.3	5.6	5.2	3.2	2.8	4.0	3.6	3.6	3.2	2.2	4.7	3.5	2.6	2.0	
8.0	7.1	6.5	4.0	3.6	5.0	4.6	4.6	4.0	2.8	6.0	4.5	3.4	2.5	
11.0	9.8	9.0	5.6	4.9	7.0	6.3	6.3	5.6	3.9	8.2	6.2	4.6	3.5	
12.5	11.2	10.2	6.3	5.6	7.9	7.2	7.2	6.3	4.4	9.3	7.1	5.3	4.0	
16.0	14.3	13.0	8.0	7.2	10.0	9.2	9.2	8.0	5.6	12.0	9.1	6.7	5.0	
22.0	19.7	18.0	11.0	10.0	14.0	12.5	12.5	11.0	7.8	16.5	12.5	9.3	7.0	
Factor	1	1.25	1.5	4	5	2.5	3	3	4	8	1.6	3.1	5.6	10

N.D. = Neutral Density

N.D. = Neutral Density

—Eastman supersensitive panchromatic filter exposure table for daylight expressed in "f" values

sary to open the diaphragm to twice the aperture, which in this case would be  $f/4$ . This reasoning, of course, is based upon the fact that the amount of light passing through the lens aperture varies as the square of the opening. In this instance the ratio between  $f/8$  and  $f/4$  is a numerical factor of 2 and the square of 2 is 4, which satisfies the above condition. It is obvious, of course, that many filters do not have such accommodating fac-

graphed on Super-sensitive Negative in daylight, both unfiltered and filtered. Further, suppose the unfiltered stop to be  $f/8$ . Also suppose that the filtered exposure is to be made with the 3N5 filter. In the first column under the heading "no filter" locate the value of  $f/8$ , then project horizontally across the table opposite  $f/8$  until the column headed "3N5" is reached. At this point the value of  $f/4$  is found. Therefore, the scene shot unfiltered at  $f/8$  can now be shot filtered with the

(Continued on Page 36)

\* "Filters and Filter Factors," by Emery Huse and Gordon Chambers—American Cinematographer, December, 1931.

# SOUND TRACK MECHANISM

By JAY CLEIS KROESEN, S.M.P.E.

(Patent Serial No. 573,709)

To the Editor,  
International Photographer:

In pursuance of our recent exchange of letters in regard to new inventions appertaining to motion pictures, I am attaching hereto a copy of my patent number 1,917,653, issued July 11, 1933.

This is one of a group of patents issued or about to be issued for the accomplishment of several things, some of which will make possible the substitution of *two sound tracks*, where one is now used and making possible the use of the present projectors with but minor changes in the parts now supporting the telescope lens, whereby one sound track will be used for the sound as at present and the remaining track for the automatic operation of change-overs without mutilating the film, operating the switchboard and dimmers, signals, and what have you in the theatre.

The diagonal sound track registrations may also be used to good advantage with 16 mm. film as is explained in the patent paper attached, and will permit a wider sound track on 35 mm. film which, to my way of viewing the situation, will permit the reduction in width of the recording aperture and permit the lengthening of the same.

It will also permit the use of double sound track in the correlation of light with sound by operating the switchboard dimmers while sound is operating for prologues, etc.

When used for music as supplied for dances in small communities the picture photograph may be entirely omitted and, a series of sound tracks adjacent to each other may be had over the entire width of the film and, by this method, a large number of sound tracks may be had on a single film width. By the use of the endless film with the standard method of cut-over, any length of film may be used without changing the gear ratio of the special sound projector; for example, 15 sound tracks on 35 mm. film is or might be possible or 360 feet of 35 mm. film for one hour of music, voice, lecture, etc., 1800 feet for 5 hours, etc.

Of course, there are numerous applications to which this could, with the additional patents about to be issued, be made, such as better sound reproduction during printing of positives, etc.

The fact remains that a better and higher utilization of film is desirable where frequencies are registered and more light is required and to this end I feel I am accomplishing some headway and, of course, the change in aperture dimensions by the reduction in width and lengthening of the aperture, will be of some advantage in quality of sound, etc.

JAY C. KROESEN.

\* \* \* It is an object of this invention to provide an improved motion picture film having an improved sound track thereon.

It is another object of this invention to provide an improved motion picture film having a sound track whose components are angularly disposed with respect to the direction of travel of the film.

Yet another object of this invention is the provision of improved motion picture film having a sound track of variable width.

It is also an object of this invention to provide such improved film having a sound track of variable width adapted for use for standard 16, 25, 35, 50 and 70 millimeter films, etc.

Yet a further object of this invention is the provision of an improved sound track for motion picture films which is adapted to be consolidated so as to form a track of varying depth which is further adapted to be printed on small size tracks for standard 35 millimeter film.

A further object is the provision of an improved sound aperture mechanism for a sound camera.

Yet another object of this invention is the provision of an improved method for reproducing, recording and printing sound on film. \* \* \*

As intimated hereinabove difficulty has been experienced in recording and reproducing sound on film due to the fact that the physical elements of the sound tracks and associated apertures now in use are such that the possible upper and lower registers of sounds are not now capable of being reproduced. \* \* \*

A desirable angularity for the sound track elements is 45 degrees from the angle or direction of travel of the film proper, although other angles may be used up to substantially 90 degrees.

Referring more specifically to the drawing there is shown, in Figure 1, a motion picture film, designated by the numeral 10 and having a sound track area 11, of standard dimensions.

In Figure 2 the sound track area remains the same for any given size of film, but due to the angularity of the component elements 13, they are appreciably increased over the corresponding elements 14 of the standard horizontal track, so that an appreciable increase in the effect of track width, as indicated generally by the numeral 15, is secured.

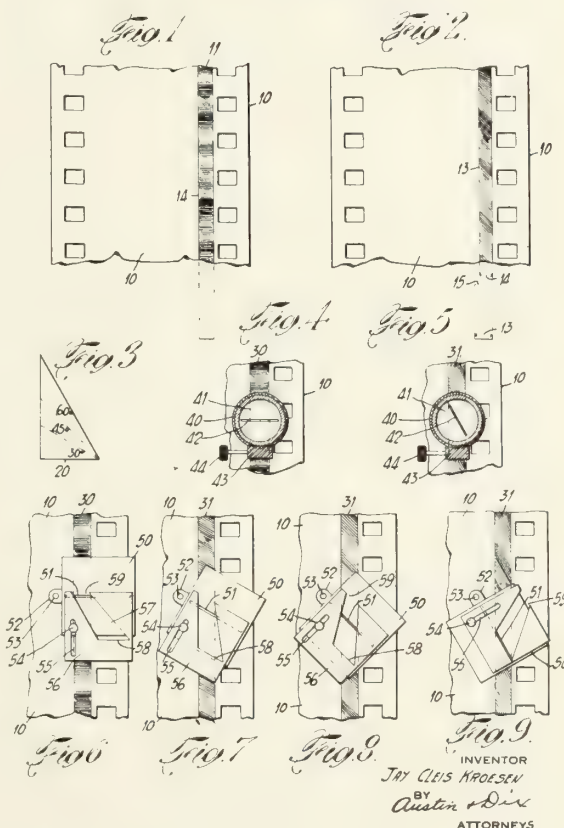
Referring more specifically to Figure 3, there is shown a plurality of right angles having a common base 20.

By superimposing on this common base 3, right triangles making

July 11, 1933.

J. C. KROESEN  
SOUND TRACK MECHANISM  
Filed Nov. 7, 1931

1,917,653



30, 40 or 60 degree angles with the base respectively, it will be seen that the hypotenuses of the several triangles are successively longer than the base. For a 45 degree angle, therefore, the increase in the length of the aperture over that afforded by its strictly horizontal aperture is approximately 40 per cent.

As the angle is increased the effective length or width of the sound track is also increased until, as the angle approaches 90 degrees as a maximum the sound track element approaches infinity in length.

Referring to Figures 4 and 5 there is shown a standard sound film having a track 30 in which the elements are of variable width, as in Figure 4 or in Figure 5, the elements 31, while of variable width, are still diagonally dispersed with respect to the direction of travel of the film, and are appreciably longer than the horizontal elements.

The aperture mechanism, comprising a rotatable sheath 40, having an aperture plate 41, containing an aperture 42 of any desired dimensions, is adapted to be rotated by means of a micrometer screw adjustment 43 controlled by suitable knob or handle 44. Such a device permits the obtaining of any desired angularity of the aperture in a single sound camera or reproducing head, and also permits various moving picture producers to effect a standard angularity for their

(Turn to Page 37)



# AROUND THE WORLD

WITH

HERFORD TYNES COWLING

*Seeing the CENTURY of PROGRESS EXPOSITION—No. 4*



In the face of one of the world's most terrible depressions, the best minds of science, industry, art and showmanship, have combined to make this World's Fair an entirely new type of exposition.

By contrast with former expositions, an entirely new concept has been given A Century of Progress Exposition of 1933, at Chicago.

New methods of annunciation and animation are used to express the great changes that have taken place in our life during the past decade.

The story of progress starts in the Hall of Science, heart of the exposition's exhibits scheme.

Leading scientists of the world have co-operated through the National Research Council in the selection of the material.

Here, dynamic active exhibits illustrating the basic sciences and man's indebtedness to them are shown. If

the reader attends the exposition and goes nowhere else on the grounds but to the Hall of Science, his journey will be justified.

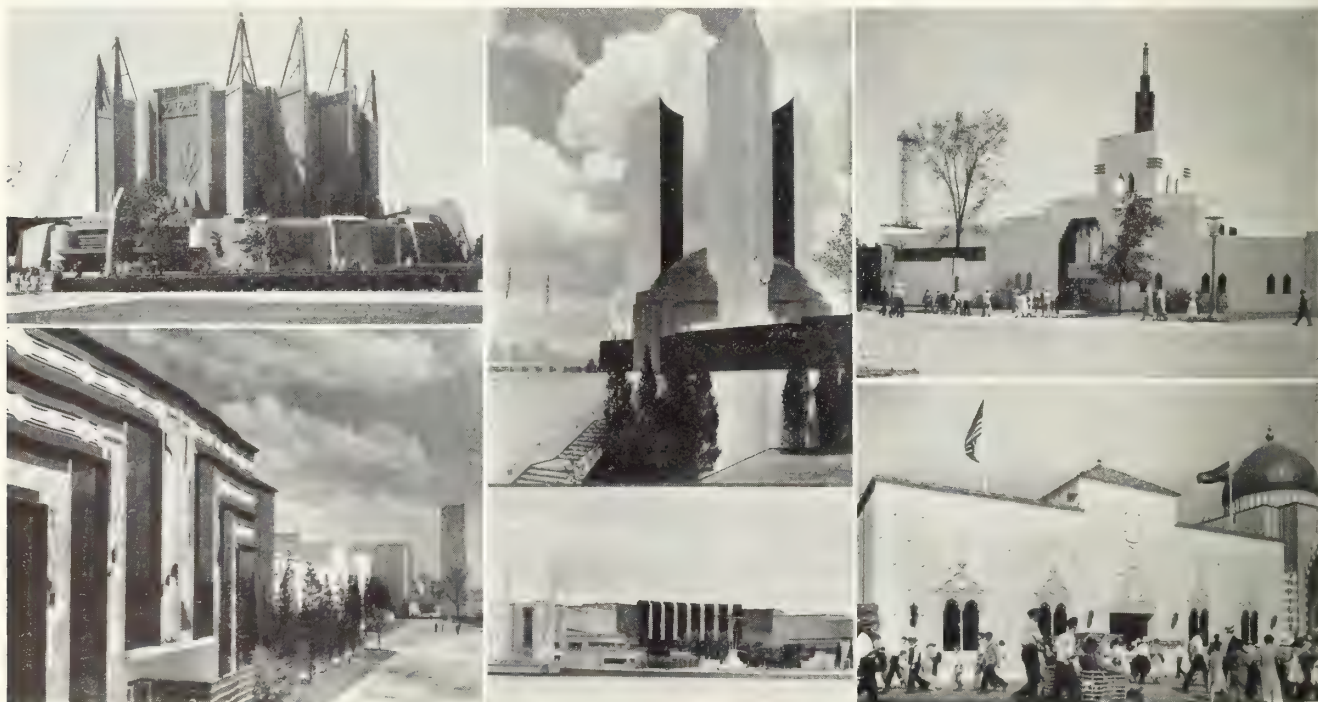
In the vast Agricultural, Electrical, Communications and Dairy Buildings, as well as in the five great pavilions of the General Exhibits Group and the Travel and Transport Buildings, the more direct applications of science to the world of industry is shown.

To the story of science and industry it has added the portrayal of the resources, attractions, industries and agriculture of many states of the Union, shown in the great Hall of States.

The role of the United States Government in the advancement of industry, the arts, peace and exhibits, demonstrating the nature of our institutions as they relate to the wants of the people, is shown in the impressive Federal Building, which rises adjacent to the Hall of States.

The romance and color of distant lands are reproduced in pavilions and exhibits of foreign nations, among whom are Italy, Japan, China, Sweden, Morocco, Ukraine, Poland, Czechoslovakia.

There is a wealth of material for the movie enthusiast; motion galore on all sides. You may "shoot"



No. 1—Upper Center: **U. S. FEDERAL BUILDING**—A three pylon building on the Northernly Island of the Fair grounds. Above its gold dome three pylons, fluted towers, rising 150 feet high, typify the three active branches of the U. S. Government—Legislative, Executive and Judicial.

No. 2—Upper Left: **THE BREATHING DOME OF THE TRAVEL AND TRANSPORT BUILDING**—For the first time in architectural history a dome has been constructed on the principles of a suspension bridge. Just as a suspension bridge has no pillars, columns, or arches to support it from below, but depends on cables to carry its load, so the dome of the Travel and Transport Building is suspended 125 feet above ground by cables attached to twelve steel towers.

No. 4—Lower Center: **THE GREAT ELECTRICAL BUILDING**—In semi-circular form behind the court, connects with the Radio and

Communication building. The entrance from the lagoon is a water gate flanked by two huge pylons more than 100 feet high and a wide stairway leading up to the hall.

No. 5—Lower Left: **SOCIAL SCIENCE HALL**—Looking along the front toward the Electrical Group. Here one can see the social consequences of man's achievements in science. A century of progress has changed our whole social and economic life.

No. 6—Lower Right: **THE PAVILION ESPANOL**—Represents the type of building found along the Midway, containing cafes and booths of a nationalistic character. It is a reproduction of an old palace of beautiful Spanish Architecture.

No. 7—Upper Right: **THE HALL OF RELIGION**—Houses an exhibit of interest to students of religion.



more strange sights from the four corners of the earth in a single day than at any other place on earth at this time.

From reproductions of Fort Dearborn and Lincoln's birthplace one can turn to view complete American Indian villages—Navajo, Hopi, Sioux, Winnebago, and a colorful reproduction of a Maya Temple of ancient Yucatan. Oriental Villages, Streets of Cairo and Morocco, Japanese and Chinese Pavilions literally cry out in competition with the reproduction on a grand scale of a Belgian Village and the Streets of Paris.

The Streets of Paris is a construction of a portion of the Quartier Latin and Montmartre. It is an area of shops, boulevard cafes, dance pavilions and shows with the atmosphere of life in the art student's haunts, and includes a reproduction of the famous bookstalls on the Seine.

The Belgian Village is a reproduction of parts of Ghent, Bruges and Malines, in the Middle Ages—a market place, hand-craft artisans at work, cafes and the quaint architecture.

The Golden Pavilion of Jehol, a reproduction of China's finest Lama temple, is a feature that attracts the attention of thousands of visitors.

The original temple was built in Jehol, China, summer residence of the Chinese rulers 165 years ago. Its replica on the Fair Grounds presents an interesting contrast to the ultra-modern exposition buildings that surround it.

Dirigibles soar overhead constantly, taking the sky-minded aloft, while the Sky Ride is to this exposition, what the Eiffel Tower was to the Paris Exposition and the Ferris Wheel to the Columbian Exposition.

Rocket cars operate on cables between the steel towers 628 feet high, the highest man-made structures west of New York. They are two thousand feet apart and constitute one of the world's longest suspension bridges. Overhead cable track for the observation cars is at the 210 foot level. They travel back and fourth, making the trips in about four minutes.

The platforms at the 610 foot level, give a matchless panorama of the brilliant color and motion of the Fair, of all downtown Chicago, of the great stretch of the lake, and sand dunes of Michigan glittering in the distance on clear days.

### THE SEVEN SEAS CORPORATION



The Seven Seas Corporation, of Hollywood, has been organized to film unusual stories in unusual locales and the first expedition to be sent out by the organization sailed August 25th on the Matson liner, Malolo, for Honolulu at which point the party will tranship for the island of Kauai.

William Fisk, III, is president of Seven Seas Corporation and Lois Weber is directing, the vehicle being "Cane Fire," by James Rodrero, a

story of the sugar plantations of Hawaii. Isadore Bernstein is executive producer and Count Alfreda di Carpegna is vice-president.

Twenty-two people were in the party that left on the Lurline on August 25th, Miss Weber having preceded them on the Malolo, August 19th.

Alvin Wyckoff, in charge of photography and sound, organized the technical staff with the following named members: Frank Titus, second camera; William Jolley, Jr., assistant; Robert Crandall, stills; Terry Kellum, sound recording; Jack Wallace, electrician; William Carr, assistant director; Kenny Koontz, props; Rosey,



The genial looking gentleman at the left delivering a lecture on the subject of "Cameras I Have Met," is no less a personage than Mr. Hal Mohr, cinematographer par-excellence. His interested audience is the well known English director, Robert Milton.

grips.

Alice Johnson accompanies Director Weber as secretary in charge of script while the roster of actors includes Mona Maris, Hardie Albright, David Newell, Virginia Cherrill, Arthur Clayton, Robert Stevenson and Whitney De Rahm.

The technical and mechanical equipment includes two Mitchell cameras, one sound truck, one boom truck, one prop and camera truck, an abundance of Eastman S. S. Grayback and last but not least Mr. Wyckoff's Leica camera which will be featured.

The Roy Davidge Laboratories will handle all film on "Cane Fire" and the productions to follow.

### THE ASSISTANTS TALK IT OVER



What happened to your cameraman's negative.

The football crew in the developing room got their signals mixed.



# THE NEWSREEL WORLD

By RAY FERNSTROM

Dear Friend Editor:

Have just made a long motor trip through dear old Sweden and believe me this is a motoring paradise. There are many fine roads throughout the country and plenty of parking space in the many interesting cities. From a photographer's point of view the land abounds in excellent material, which my friend Hovfotografer Norberg and I have been trying to capture with our respective cameras. We have been blessed with beautiful days and marvelous cloud formations for backgrounds. No place in California or Arizona has offered such clouds, to my knowledge. As soon as we get some stills finished, will mail you a few.

Hot! Boy, has it been hot here in Stockholm this summer! Even more so than Panama. Nevertheless, despite the fine food and heat we have been getting some swell negatives off to New York. One such funny incident occurred that I shall tell, even though the joke is on me. It was during the coverage of His Majesty the King, better known as Mr. "G."

Although seventy-five years old, King Gustaf plays a corking game of tennis, his favorite recreation and sport. We called on him at his summer place down at Saro and were told by him personally that he was to play the next day in competition and that he would be pleased to do as we wished.

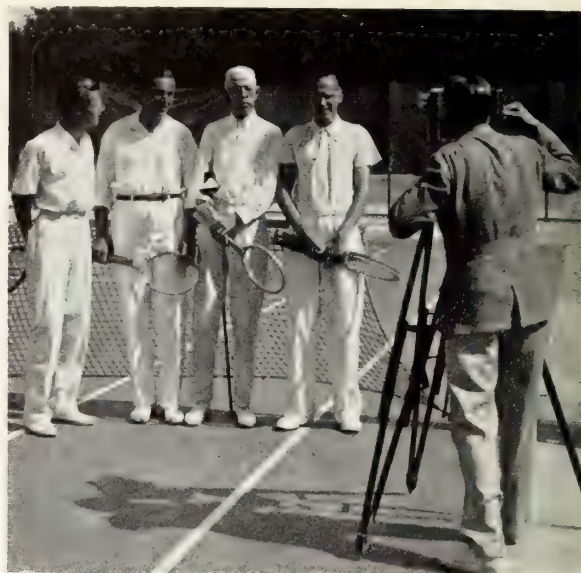
Not only did he do this, but he wanted to direct the show himself. I tried to make a close-up as he sat in a camp chair watching other players. While trying to focus through the film I was astonished to see nothing but darkness. Turning the crank, trying to open the shutter did no good and no obstructions could be found in the camera.

Imagine my astonishment when I looked in front of the lens and found the KING'S FOOT there. He knows his cameras and was jokingly kicking about being too close. So if a little enamel is scraped off the matte box, Art Reeves, it was the job of a king. 'Tain't every day a real reigning monarch kids the cameraman!

An American driving through this country will be astonished at the great numbers of familiar appearing gas pumps and American types of highways. Our modern methods surely do influence the rest of the world and especially the progressive Swedes. The most interesting features, to my mind, of motoring longer stretches here, are the eating places. Each town or city has its Stads or Grand Hotel. These may not look like much from the Torg, or market place where they are usually located, but once inside you can depend on them all to have delightful restaurants.

Practically all offer a choice of three locations—the main dining room, usually located on the second floor, a summer restaurant on a balcony, or on a little island—real or manufactured—or a roof garden with a choice view over the surrounding terrain. The better class hotels, as most are, have fine orchestras that play classical music during dinners.

The Swede eats a breakfast of coffee and Weiner Brod, called coffee breakfast, from eight to about ten; at noon he eats his breakfast, or as he is slowly learning to call it, lunch. Then from four to seven he eats his middag or dinner. Later (as he is usually hungry all the time) a supe at any hour from dinner to two A. M.,



Newsreeler Ray Fernstrom (excuse his back) has the honor to photograph King Gustaf of Sweden at His Majesty's country palace.

which is eaten between dances. The Swedish dance orchestra, be it all Scandinavian or not, takes an American name, such as Jack Harris, so that the natives will feel their music is as good as our orchestras play on the very popular American phonograph records. They own more graphophones than they do radios and play them incessantly.

Gas is getting cheaper over here. We may have a union of cameramen and other technicians within the film industry, but here they even have a union of auto owners to drive down the price of gas and oil. They save a quarter or thirty cents on a tankful of gas and a nickel or so on a quart of oil. American cars naturally are most popular, although the Swedes build a splendid car called Volvo, powerful, staunch and good looking, but without the acceleration of our cars, and are more expensive.

But to return again to gastronomic matters—EATING is the local pastime. Such food, such variety and such abundance! A meal such as lunch usually offers Smorgasbord or hors d'ouvers table with a selection usually of sixty or more kinds of tempting appetizers. No appetite is whetted enough even with this array, so a snapps is inevitable. Snapps, called Brannvin, "wine that burns" the throat, is nothing less, could be nothing more than what it is, straight potato or wood alcohol. Not the wood alcohol we know and fear, but a spirit made from cellulose, called Norrland's Brannvin. What an appetite after a few skals with this. There are a dozen different kinds of brannvin, but this one should please the Hollywood taste, if mine is any criterion.

After the Smorgasbord comes the Warmdish, which is really more of a meal than we eat at any one time in the States. More often than not a fish dish is inserted before this—and do they know how to prepare fish!

To top off a good meal comes dessert. At present it is strawberry or jordgubbar season. These are eaten with frozen whipped cream and I don't wonder they are most popular. They are a hardier variety than ours and have a rare flavor that once tasted is never forgotten. A little later will be smultron season. These are tiny raspberries with delicious aroma and flavor which are also eaten with frozen whipped cream, or glass, as ice cream is called.

To return to our photo drive, via Plymouth, floating  
(Continued on Page 33)



**AUDIO PRODUCTIONS, INC.**

The formation of Auto Productions, Inc., with offices at 250 West 57th Street, New York City, has been announced.

According to Mr. W. A. Bach, President of the new organization, the company is a Western Electric licensee and will specialize in the production of unusual talking pictures. Films of educational and scientific interest that have demonstrated a definite entertainment value will be handled for theatrical distribution, in addition to which the company may produce and distribute a number of unusual subjects on its own account.

Production will be done either in the Bronx or Astoria studios of the Eastern Service Studios or at the Western Service Studios in Hollywood. The production headquarters will be located at 2826 Decatur Avenue, Bronx, New York.

Associated with the new producing organization are a group of experienced production executives who have long been associated with the various units of the industrial and theatrical field in the East.

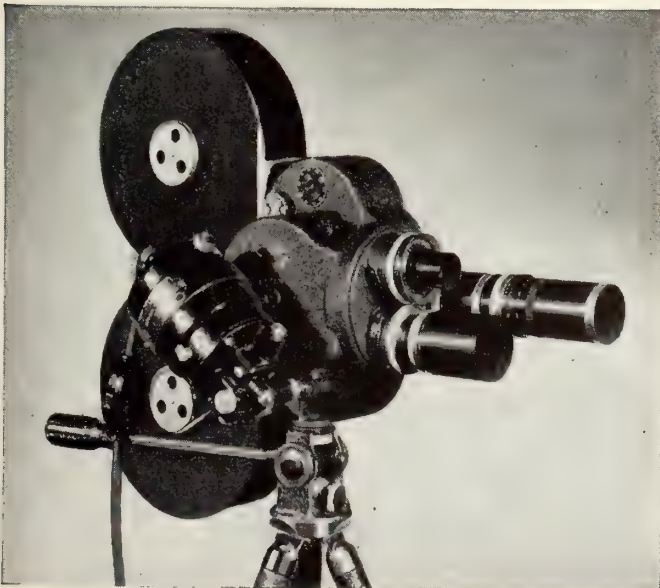
The other members of the organization include men who have been prominently identified with merchandising and advertising.

"We expect in the near future," Mr. Bach stated, "to give a more specific idea of our plans, the number of pictures we contemplate handling and the number of kinds of films we expect to produce, as well as the names of executives who will be associated with us. I think that the industry will find some of the pictures we plan to distribute both unique and interesting, blazing a new trail of entertainment that talking picture followers will want to see."



Director Lloyd Bacon, Chief Cinematographer Sol Polito, Star James Cagney and featured lead Patricia Ellis, take time out of action to discuss a knotty situation in the script.

# The Motor Driven **EYEMO** with Improved Viewfinder



THE new motor driven Eyemo, with its constant sound speed of 24 frames, now has a viewfinder especially designed for use with the camera's auxiliary magazine in place. The eyepiece is larger and at a more convenient offset angle. There's plenty of room to sight, even when wearing glasses. The new viewfinder, with its six variable field areas, is of the "positive" type. The correct field is seen regardless of whether the eye is "centered" with the eyepiece.

The Eyemo has, in addition, seven precisely governed film speeds, three-lens turret, Cooke 47 mm. F2.5 lens, daylight loading spools of 100-foot film capacity, 200 or 400-foot film magazines, 12 or 110-volt electric motor, and built-in spring motor and hand crank drives. Write for full details.

## BELL & HOWELL

1849 Larchmont Ave., Chicago, Ill.; 11 West 42nd St., New York; 716 N. La Brea Ave., Hollywood; 320 Regent St., London (B & H Co., Ltd.) Established 1907.





## "AREA DISTRIBUTION"

By ROBERT LOTHAR KENDALL,  
President Kendall & Dasseville

The real trouble with most of us in the sound industry is, that we have failed to progress beyond the stage of being able to handle a hammer, screw driver and a pair of pliers. Just to be honest, let's admit it.

We're in a rut! Just because the photoelectric cell has been invented, is no reason why we should sit back really contented and leave our grandchildren continue where we left off.

Several weeks ago, we had the pleasure and distinction (under a promise of utmost secrecy) to learn the details of an intramolecular "motor." This tiny piece of equipment—scarcely larger than your son's toy locomotive—has a potential power possibility, when properly geared down, to propel a five-ton truck. The fuel used is stored in a pressure tank no larger than your forearm. The late Earl of Birkenhead predicted this very same development, yet, the gentlemen in our Patent Office at Washington, gravely shake their heads and chant: "Perpetual Motion—patent unallowable."

Can it be, that we children of the Twentieth Century either don't know, or refuse to understand the possibilities virtually within our grasp? Why should an industry as large and as well-financed as the motion picture industry is, follow the teachings of a few theorists? Yes, we are referring to electricity in its accepted form. Let us pause to analyze for just a moment.

If we strike mineral against itself or against plant matter and perceive a spark, we cry, "Electricity!" Should we stroke a cat in the dark, or witness a conjurer releasing sparks from his fingertips, we immediately pronounce it "body capacity," a form of static electricity. Are these true forms of electricity? Perhaps, we haven't elaborated so much, after all, on Franklin's original kite-and-key experiment!

"But," one might ask, "what has all this to do with dialogue motion picture reproduction and public address systems?" Just this much:

Our present reproducer problems are not wholly electrical. Your author has personally conducted analytical research in hundreds of wired theatres and other auditoriums and has succeeded in whipping some exceptionally stubborn problems after electrical means failed, by applying first of all, good common sense, the knowledge of physics and solfeggio, plus a well-stocked bag of audio-dynamical tricks.

We offer as evidence, "case history" number one. The outstanding facts were: Capacity 1800. Projection throw, 212". Deficiencies twelve slight echoes, speech distortion, overtones, blasting, impaired audibility to the twentieth row from the stage, also from the center of the house to the standee railing and in the balcony. Suggested cures absorption materials on side and rear walls at a cost of \$6500.00. The alternative cut the house in half, thereby losing about 700 seats, the cost estimated at \$2800.00.

We now show how the "cure" was effected without the use of one square foot of absorption materials in the auditorium proper. A disused spangled traveler was reversed and placed against the brick back-wall of the stage and draped to meet the screen at both ends. This killed the parabolic efficiency and cavity resonance of the stage entirely. Correct ventilation was provided above and below the screen. The speakers were re-

(Continued on Page 32)

## In Memorium



June 7, 1900—NORMAN DE VOL—July 31, 1933

*"I can't go against the gang."*

To one of his simple and faithful heart loyalty was the highest badge of honor—and to preserve that, death seemed but a little price to pay.

# THE CHICAGO SCRAPBOOK

By Fred (Red) Felbinger



The stratosphere flight . . . the ultimate in man's reach for the heavens . . . Lt. Commander "Tex" Settle . . . U. S. Navy . . . a man's man . . . prepares for an intrepid, adventurous solo into space . . . into the far nowhere . . . one of the few remaining mysteries to man . . . Soldier Field, Chicago, is chosen as his point of take off . . . the world hears of it in advance . . . and thousands of thrilled followers of one, ready to cast off, in the path of adventure, gather . . . It is eight P. M. . . . a tired

sun is curling into crimson over the west collonades of Soldier Field as the trek leads to the chilly stone seats of the massive stadium . . . on the field trained regulars of the Army move in rhythm to entertain the crowd . . . a band blares out . . . to the north of the grounds, begins the slow process of inflating the massive balloon that will carry this modern knight of adventure into the vast void above Mother Earth . . . the constant hiss of the hydrogen tanks is audible as their precious contents start to expand the massive bag of rubber layed out, neatly on the field . . . to the north of Soldier Field the gates are suddenly swung open . . . several trucks roll down the runway . . . newsreeler's grief wagons . . . it's now eight fifteen P. M. . . . the beginning of

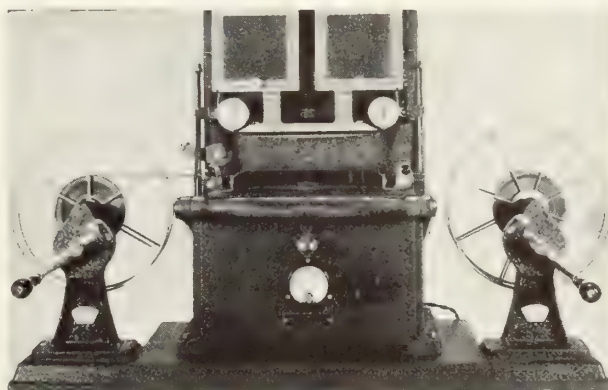
a new assignment for the boys riding in those trucks. A stratosphere flight . . . telegraph wires have hummed for weeks now . . . advising the world . . . this event was about to transpire . . . and this is the night . . . so the newsreel trucks roll into the stadium . . . there's Phil Gleason chauffeuring in the Fox truck . . . carrying his dead-eyed newsnooper, Eddie Morrison . . . Graham shoves in with the Daily News truck while his cameraman, Sam Savith, chews away on his eternal ceegar . . . Jack Darrock is down at the sizzling hydrogen tanks looking for some odd angles for his camera huskies . . . there's Charlie Ford, lining up the "inkies" with the grips, Tony Caputo is climbing up on the Pathe truck, ready to set up his "groan box" for another heavy night . . . somebody said it's going to take about six hours to inflate this massive balloon . . . but the newsreelers don't mind . . . you see, it's their racket . . . to wait no matter how long . . . but get that picture . . . it's in their blood . . . they never squawk about hours . . . all they ask is a break . . . get that picture . . . then a rest . . . maybe a short one . . . maybe a long one . . . before the next assignment. . . . So dusk settles over Soldier Field . . . nine P. M. . . . ten P. M. . . . the crowd begins to grow slightly weary . . . more newsreelers arrive . . . Charlie Geis lugs his heavy equipment to the top of the stadium . . . Floyd Traynham grinds away on his trusty Akeley . . . 11 P. M. . . . a radio announcer chins away to satisfy a crowd now getting bigger . . . and a bit more weary . . . but everybody sticks . . . it's a big event in aviation history . . . man's latest attempt to conquer new fields . . . Charlie Ford stands behind those inkies watching incessantly for strange cameras . . . Charlie Ford you see represents the sponsors of that flight . . . one newsreel has been barred . . . but Ford being a newsreeler knows that somewhere in that stadium, is hidden lens snoopers that will get the event for the barred outfit . . . it's the racket . . . get your picture . . . whether you're welcome or not . . . so the hours pass into oblivion . . . it's now getting around two A. M. . . . a new day is but a pup

(Continued on Page 34)

## "ArtReeves" LITE-TEST MACHINE



SOUND AND  
LABORATORY  
EQUIPMENT  
OF DEPENDABILITY  
PROVEN  
BY CONSTANT  
USE

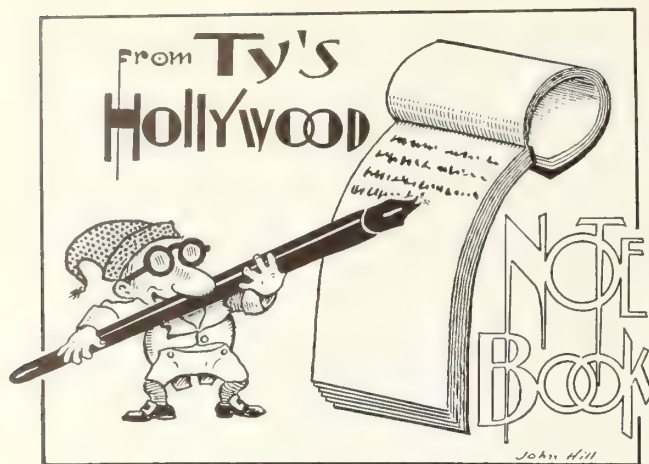


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I went to the Panamint Mountains to the famous "Old Anthony" Gold Mine which is now generally known as the Harry Tucker Mine. It is a short distance from Death Valley, in fact, as us mountaineers say: "It is about two whoops an' uh holler off." Since it was so near and since both of the native citizenry told me it was the hottest year in years, etc., I figure I would hear the people over in the valley groaning from the heat; but each time I heard a noise I found it was only a starving buzzard.

The second night—under a rich moon—up here, unexpectedly, I came upon a wild mountain sheep or a goat. As far as I was concerned, it could have been either. I was out looking in nature's places for what poets hunt, or something; the goat was hunting for a tin can, or what goats hunt at that time of night. We saw each other at the same time. The goat, in surprise, jumped about fifteen feet and I jumped, well, I thought I would come down across the range in the next valley. However, in a second or two I found with regret I had hardly moved because there was the goat with head down inviting me to joust with him. There I was on a mountain with just a goat! Enough. The story I am stuck with now is that I went on home.

The third night when I heard another noise I did not investigate to see what it was.

My favorite gentleman—little three-year-old William Tucker brought my attention to how nice "daddy" sounds. When he says it in that three-year-old way to his father, Father Tucker looks about at those near with one of those "see-what-I-done" expressions. If he would have lived during the time of the Montgolfieres, who made the first balloons which arose by means of air heated with straw fires, he would be thought to be blown up to the last straw. By the way, we might inflate those navy balloons by getting a bunch of fathers together at the hangar and have their offspring just repeat daddy and then the excess proud fatherhood gas or steam could be piped to the balloon bags. Fathers would be glad to do it for nothing.

But to return to the mountains. Here I sit on a rock on a large mountain-side and stare off in the distance toward our Hollywood. Usually distant things are shrouded in mystery, but here Hollywood seems easier to understand. Its long and short haired persons, its city ginks, bootleggers and picture producers, all blend to a mass of film being squeezed out of the place in somewhat the same manner that a sausage grinder forces out the meat conglomerate. In both, after a suitable amount of stirring about and grinding, the material, or shall we say stuff, comes spouting out as if under pressure. Pressure is right; but after all. *And of course, I don't mean the pictures made by the producers that read this column.*

Did you ever sit on a mountain-side which had not been worn out by humans? We are all familiar with the lyrical feelings when having an affair with Dame Nature in a treesy, breezy rendezvous when not a thing seems near enough to matter, and the only important thing is the lazy idleness required to dabble in the swaying leafy lacy-ness of a tree, or the new found blueness where the horizon rises to the sky, or perhaps, the personality of a weed. Shall we say it is wooing Nature, a new mistress? From this distance in comparison, such things as the new mustache guard—to me a guard for a female enticer—that Adolphe Menjou designed to protect his hirsute ornamentation seems . . . well it seems. I suppose it all depends who one is courting and why. Adolphe Menjou, by the way, rather than have his luring whiskers mussed up in the rough scenes of the "Worst Woman in Paris" designed the aforesaid guard. Inventor Menjou says his mustaches gives him quantities of more sex appeal or what ever that unknown quantity is that bothers girlie friends.

I still maintain that the wild goat did not leave an impression upon me, nor did he shorten my walk that night. His goat's instinct probably told him I could not be shoved around; either that, or he found our bean cans were scraped too clean.

THE WONDERFUL MUTOSCOPE SHOWING  
MOVING PICTURES PHOTOGRAPHED FROM LIFE



DROP NICKEL IN SLOT—KEEP TURNING CRANK TO THE RIGHT,  
AND YOU WILL SEE

## A HOT TIME IN ALASKA;

THE MINERS RECEIVING THE KLONDIKE BURLESQUERS.

FROM SAM T. JACK'S THEATRE, NEW YORK.

No. 895.

About 1896-98 when movie posters were only 6 by 8 inches in size.

Disappointing! When I first saw the bar on the day Clair was taking it out, I had intended to give him an important letter to mail to a Gold-Digger in Hollywood, but after he had left and I had returned to the cabin, I found in surprise, that I still had the letter in my hand. I went out and picked up a rock and threw it!

**Hollywood picture-doers are globe-trotting. All the studios have companies on location in the outlands beyond the Hollywood horizon. Events in their natural settings rather than re-created set-**  
(Continued on Page 19)



tings are being used. The tropical fruit industry of Central America; Pendleton, Oregon; Pomona Fair; the Hawaiian Islands; Sequoia National Park; Annapolis; the far north; Rio De Janiero and many other equally interesting places have complete filming companies in their midst. Heretofor, due to the shortcomings of the sound recording equipment, it was impossible to wander far from the sound stages; but due to many recent improvements, sound has weaned itself and is now ready to crawl from its crib. It seems to me, the public in their insistence for better pictures pushed the crib and its spoiled child over.

Some of the young boys who hang around the gates of the studios have a new racket. They flatteringly ask stars for an autograph and then before the tides of pleasedness subside, the acute youngsters sell the victim a magazine.

What I like to hear is Marie Tucker's "Come to dinner, you lovely people." Say, that's an appetizer!

Gus, the Gull, informs me, with twinkling eye, that he may go to the beach next Sunday. I told him it would be all right if he did not annoy his movie fans at Malibu. Gus is just vain enough to think that he could exchange autographs with the stars.

"Daddy, what did you do in the Great Film Strike?"

While returning to Hollywood, my time was taken up watching the some 4003 sign-boards. Unknowingly I become lonesome for them and I indulged myself. Before reaching town, I had decided to see every movie, buy Burma Shaving Cream, just for fun stop at a few different hotels, chew Wrigley's Gum, and, in short, do as the sign-boards advised. I was sign-board conscious until I reached home, then, I found that the N.R.A. hadn't started to function sufficiently to make my dollar worth enough to carry through my program.

However, I did go to one show. Paramount Pictures in their hunt for new talent have stationed an emissary or talent spotter in the lobby of the Paramount Theater. Many others besides myself hung around for quite awhile; evidently there were too many as no one saw me. So I saw the show.

# Leica 'Round the World with Wiley Post



Let the intrepid globe flyer tell you in his own words why LEICA was the only camera carried on his epochal flight:

"I selected the Leica as the only camera to carry on my round-the-world flight because it ideally combines so many important advantages. It is the one camera I could depend upon for a complete photographic record of my round-the-world flight."

Wiley Post



## New Model F Leica now offers Greatest Range of Shutter Speed in any Camera

Now the LEICA Camera has mastered the complete second! For the first time a camera with a focal plane shutter makes possible speeds of 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{1}{8}$  seconds, including all intermediate speeds, in addition to the regular speeds between 1/20th and 1/500th seconds. Instantly set for any speed. No confusing scales to adjust.

Accuracy and scope of shutter performance that is unequalled by any other camera today. Night photography, indoor, still life, portrait, architectural, press photography, aerial views, action shots, etc., have broad new possibilities with this range of shutter speeds, especially when used in combination with the new super speed films.

### New—Magnified Focusing Image

A new optical system provides for the magnification of the image seen in

LEICA'S built-in range finder compensating for differences in eyesight. Other features:

1. Eight interchangeable lenses for every photographic need (including telephoto, speed, wide angle lenses and others).
2. Over 300 accessories and attachments to choose from.
3. Built-in Short Base Range Finder gives you perfect focus instantly. No guesswork.
4. 36 pictures from a single roll of standard cinema film. (Sharp negatives. Enlargements up to 12x18 inches).
5. Small, light, compact, fits the pocket. Write for free illustrated booklet

"Why LEICA?" describing Models D and E, also booklet 1216 giving complete information about Leica Model F.

## E. LEITZ, INC.

60 East 10th Street

Dept. 355

New York

Harvey Parry, the death-defying stunt man at Fox, is worried because his wife is going to divorce him if he doesn't give up his dangerous work. He says: "Because I risk my neck, she is almost too nervous to do her own work." She works with Steve Clemente, who is a knife thrower.



# "RECONSTRUCTION SILENCING"

## SOMETHING DIFFERENT IN A SOUND RECORDING CAMERA

By E. T. ESTABROOK

"No More Blimps!"

This is the trade slogan of the corporation now building under the direction of Armin Fried, who in this issue of THE INTERNATIONAL PHOTOGRAPHER formally offers to the motion picture industry his newly invented and patented method of what he terms "reconstruction silencing" as applied to Bell & Howell and Mitchell cameras. In short he offers practically a new professional 35 mm. camera which by reasonable tests, outside of actual production, is silent and which meets all the requirements of sound recording.

Mr. Fried needs no introduction to the motion picture industry. He has long been a motion picture engineer of acknowledged standing and technical attainments and is especially well known in Hollywood where, for fourteen years, he was chief of the camera maintenance

installed. This permits focusing from the rear without moving a lens turret or shifting the camera itself.

An outer case closely following the lines of the camera under treatment is fitted to the head and, when ready for operation, measures 12x12x12 over all, not including magazine, and weighs 87 pounds.

This outer case is of light weight metal and in it are contained the sound absorbing materials. The result is a self-contained unit, attractive, convenient, easily portable, entirely controllable from the outside and, once ready for operation, does not need to be removed except in case of necessary repairs.

In appearance the reconstructed camera is a workmanlike job as may be noted by the advertisement on page 32 of this magazine.

The loading of the camera is done in the conventional manner, while lenses can be changed in less than a minute by means of an automatic locking device.

The usual shutter and counter markings and their adjustments are on the crank side of the camera. The focusing and follow focusing device is operated from the rear of the camera and a metal scale corresponding with the footage marks on the lens mount with its indicator is also mounted on the rear wall. All knobs, levers and adjustments automatically disengage when not in use, thereby preventing the transmission of sound to the outside.

The sunshade is provided with a 3 inch square, optically flat glass to prevent noise transmission at that point and a filter may be substituted for this glass when it is necessary to use one.

There is a built in anti-buckling device which disconnects the motor drive instantly. In the event that the motor should run in reverse there is an ingenious ratchet device which prevents any possibility of damage to the camera.

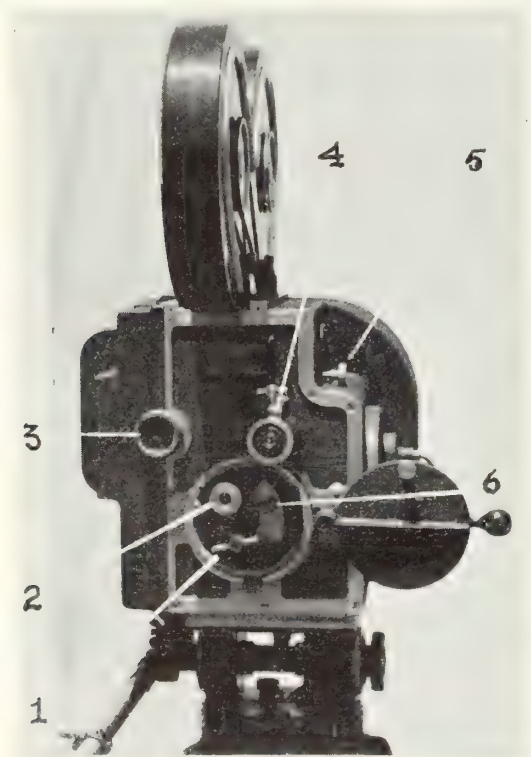
The camera may be cranked by hand in the usual manner wherever necessary and last minute focal and alignment observations may be made before shooting.

The optical system is simple and easily operated as follows: A conveniently located lever on the rear wall of the box enables the operator to focus with facility. A turn of the lever moves the lens directly forward and shifts a prism into perfect alignment behind the lens. Turned in the opposite direction the process is reversed and the camera is ready for action.

Adjacent to the focusing lever is a knob for follow focus and also an indicator and dial with technically precise calibrations for the lenses of different focal lengths to be used.

It is important to note that in this method of focusing there is no obstruction of any kind between lens and film when the camera is in photographic position.

While the Fried "reconstructed" camera has not been seen on a set in actual operation the impression it leaves the painstaking observer after careful visual analysis is that this newest invention is extremely practical, fairly inexpensive and makes it possible for the owner of either a Bell & Howell or a Mitchell camera to easily convert it into a silent camera.



No. 1—Lever for ground-glass observations. No. 2—Focusing Knob. No. 3—Magnifying Eye-Piece. No. 4—Motor Adaptor. No. 5—Shutter Adjustment. No. 6—Focusing Mark for lenses of different focal length.

and research department of the Fox Film corporation and inventor of many improvements and devices for the camera.

Ever since the introduction of sound into the motion pictures Mr. Fried has been at work to develop his ideas of "reconstruction silencing" until now he feels justified in proclaiming his success by formal advertisement.

Briefly the inventor's method is as follows (and to reconstruct the camera does not take long) according to Mr. Fried:

The camera to be treated is first silenced by the Fried method and a specially devised optical system is

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*Everything You Need . . .*

. . . comes to you in Eastman Super-sensitive "Pan"...Versatility that virtually knows no bounds...Uniformity you can bank on every day in the year...Final results that give expression to your art as no other film can. You need this famous Eastman film as your negative medium...Brulatour service comes *with* it, free.

## EASTMAN FILMS



# THE PURSUIT OF THREE DIMENSIONAL MOTION PICTURES

By EDWARD H. KEMP

While Thomas Edison was at work on the invention of practical motion pictures his chief assistant was a young Englishman named William Dickson. Writing on the subject of the new pictures that moved, Dickson stated in 1896: "Projected stereoscopically . . . a pleasing rotundity is apparent which in ordinary photographic displays is conspicuous by its absence."

That this announcement was premature may be seen from the continued efforts thirty-seven years later to achieve the successful three dimensional picture. Outstanding among film pioneers who wrestled with this problem was George K. Spoor, the "S" of the famous "Essanay Co.", of Chicago. Spoor's devotion to the stereo idea reputedly cost him many millions of dollars.

Fifteen years ago the trade journals carried stories that Spoor's optical scientist, a Swedish engineer, had finally surmounted all obstacles and the perfect stereo picture was at hand. But repeated assurances that the goal had been reached brought no pictures to the public. At length, however, came the news that the world's first stereoscopic photoplay was about to be produced by the Spoor process, a patriotic picture entitled "The Flagmaker," starring Charles Ray, and to be directed by J. Stuart Blackton. Alas, years have passed and apparently "The Flagmaker" has not yet reached the second dimension, to say nothing of the third.

Color, sound and depth have been striven for since the outset of picture making and in the opinion of those picture enthusiasts who constitute an optience rather than an audience, depth or stereoscopy, is the most important, although of the three adjuncts it has proven the most elusive. Color work has advanced until we are able to enjoy productions containing approximations to natural color which are as beautiful as scenes in nature, while the attainment of fidelity in sound has lately reached a point bordering on perfection. But the stereoscopic picture is still in the limbo of things to come.

It may be of interest to glance retrospectively at opinions of visual phenomena allied to stereoscopic theories which were current anterior to the invention of motion pictures. George Berkeley, Bishop of Cloyne, was the discoverer of a doctrine which upset generally accepted optical theories. This doctrine was that externality, distance and magnitude are not direct perceptions of the sense of sight, but are judgments based on natural signs and experience. We receive through the eye merely a fund of colored lines and points and these have an optical existence of only two dimensions.

That is to say, the distance from an object to us is not a visible thing and we are deceived into believing we see the third dimension through the mental action of judgment and inference based on an object's diminution of apparent magnitude, i.e., linear perspective, or based on faintness of color and outline, that is, aerial perspective.

Actual distance and position are revealed exclusively by the sense of touch, not of sight, but since differences in linear and aerial perspective commonly accompany the real differences of distance and position, the mind infers the real from the apparent in consequence of experience. To quote Berkeley: "Distance being a line directed endwise to the eye, it projects only one point in the fund of the eye, which point remains invariably the same whether

the distance be longer or shorter."

Or to present this principle another way—distance between objects separated in the field of vision to our right and to our left is represented optically on the retina as horizontal magnitude, but the distance of an object *from* us is represented optically always by a single point presented endwise to the eye, depending not at all upon the measure of that distance.

Similar opinions were partially set forth by John Locke in his "Essay on the Human Understanding," although it is doubtful if he was aware of their full import. He states: "When we set before our eyes a round globe of any uniform color, for example gold, alabaster or jet, it is certain that the idea thereby imprinted on our mind is of a flat circle, variously shadowed with several degrees of light and brightness coming to our eyes. But we, having by use been accustomed to perceive what kind of appearance convex bodies are wont to make in us and what alterations are made in the reflections of light by the difference of the sensible figure of the bodies; the judgment presently, by an habitual custom, alters the appearances into their causes; so that, from that which is truly a variety of shadow or color, collecting the figure, it makes it pass for a mark of figure, and frames to itself a perception of convex figure and an uniform color; when the idea we receive from thence is only a plane variously colored."

Dr. Reid, an original thinker who disagreed with almost all of Locke's fundamental views, is in complete accord with him on the subject of vision. "If a sphere of one uniform color be set before me," says Dr. Reid, "it is certain that by the original power of sight I could not perceive it to be a sphere, and to have three dimensions, length, breadth and thickness. The eye originally could perceive only two dimensions, length and breadth and a gradual variation of color on the different sides of the object. It is experience that teaches me that the variation of color is an effect of spherical convexity and of the distribution of light and shade. A sphere may be painted on a plane so exactly as to be taken for a real sphere when the eye is at a proper distance and in a proper point of view. The variation of color exhibited to the eye by the painter's art is the same which nature exhibits by the different degrees of light falling upon the convex surface of a sphere."

Also, to quote Dugall Stewart, another stalwart among the early investigators: "The perceptions of sight, prior to experience, convey to us the notion of extension in two dimensions only, and give us no information concerning the distance at which objects are placed from the eye."

These theories, as outlined above, were regarded as a permanent and positive set of truths by the inquirers of that period until Samuel Bailey, writing in the Westminster Review of October, 1842, attempted to refute Berkeley's doctrine and to expose what he called the unsoundness of "the celebrated speculation." In the evidence cited by Bailey to prove that we actually see distance was the power of young animals born with their eyes open to immediately perform purposeful acts with accuracy before they can have derived any assistance from the sense of touch or muscular feeling. For example, the duckling launches itself with perfect ease on the



surface of a pond as soon as it has left its shell. A young crocodile, the moment it is hatched, will bite a stick with unerring aim if it be presented to it. Also young goats leaping from one spot to another with the greatest precision show that there "is a natural consent of action between their limbs and their eyes and that they can proportion their muscular efforts to visible distances."

More than all this, Bailey argued that the phenomena exhibited in the hand stereoscope respecting binocular vision is conclusive confirmation that we are able to see objects in three dimensions and that we can visualize distance. In answer, the supporters of the Berkeleyan theory replied that regarding the actions of newly born animals, it is possible that brutes possess instinctive faculties which are denied to human beings, as for instance, through intuitive skill bees are able to build in hexagons although man cannot. And, while admitting that the pictures in a stereoscope make us appear to see solidity, we are merely, they say, beholding a flat picture which has a semblance of existing in three dimensions. It is an imitation that produces precisely the same sensations of color and visible form which we habitually experience when viewing a solid object.

The stereoscope merely gives a more complete illusion than an ordinary picture because it does what no ordinary picture can do—it allows for, and imitates the two different sets of ocular appearances which we receive from an object when we look at it with both eyes. Thus, they contend, we are inevitably brought to the admission that our perception of distance, form and solidity are inferences rapidly drawn from visual impressions confined to two dimensions.

Theories of vision, although originally the province of philosophers exclusively, gradually received attention from psychologists who sought to extract the kernel of truth from the harvest of opposing conclusions, presented on the one hand by the thinkers of the innate or intuitive school and on the other by those of the experience school, part of which confusion was no doubt due to the general failure to discriminate between monocular and binocular vision.

But psychology was able to accomplish but little in this field besides analyzing and classifying visual aberrations together with promulgating certain laws of association connecting vision with automatic or reflex action, and establishing the vital part played by sight in the phenomena of expectant attention.

At this point physiology steps in and, feeling slighted

at the lack of deference shown it by the inquirers, exclaims: "Your investigations have been carried on in the dark and are only empiric guesses. If you would know why and what we see, ask *me* about the machinery of vision, about the delicate cerebral structures of intercranial apparatus which transform light vibrations into perceptions of sight!" With fair hope, then, we ask the physiologist to describe the processes and equipment of orthopia. Which he does as follows:

The apparatus of human vision consists of five sets of organs functioning in the order named.

1. The eye, with its lens, iris, retina, and other structures.
2. The connecting nerves of communication.
3. The tubercula quadrigemina.
4. The cerebral centers of vision in the hemispheres called the angular gyri.
5. The gray matter of the frontal convolution.

The tubercula quadrigemina are four small bodies connected with the muscular apparatus of the eye. Hypothetically, these ganglia are supposed to preside over the sense of sight through muscular control of the optomotor action which follows immediately upon impression of light on the eye. An instance of this is the contraction of the pupil under the influence of excessive light.

The angular gyrus, according to Ferrier, is a section of the parietal lobe of the brain. The "seeing" of the angular gyrus consists of receiving and appropriately distributing the visual message forwarded by the tubercula quadrigemina.

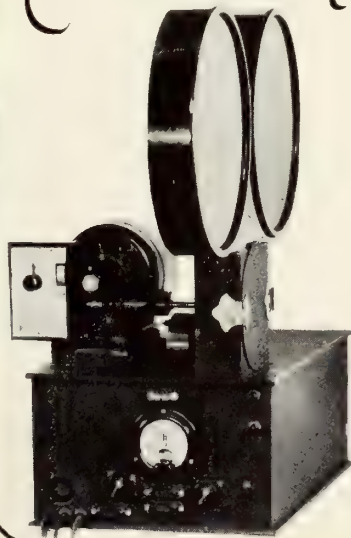
The frontal convolution of the brain is the assumed residence of optical intellection and it is here in the nuclei and investing membranes that we are asked to believe that the sensory stimulus which has reached completion as an image in the angular gyrus, finds its ideality, that is, becomes an idea.

These organs are composed of tissues, fibres, cells and granules which endow the optical organization with secret movements and powers the cause of which we do not know and perhaps never can know. Lewes says: "The formation of an image on the retina is the precursor of a visual sensation, but this image is not transmitted to the brain."

Indeed, the exact nature of the visual stimulation communicated to the brain through the medium of the above listed cerebral telegraph system, is not disclosed by any anatomical enumeration of organs or their functions. Moreover, in view of the unimpaired visual

(Turn to Page 31)

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## STORY OF THE NEWSREEL

(Continued from Page 4)

In the summer of 1905, Colonel William N. Selig, in Chicago, started to make short subjects of a news nature. They were in the form of fillers for his regular program pictures. Due to Selig's friendship with Mose Koenigsberg, who was in charge of the news affairs of the William Randolph Hearst paper, *The Chicago Evening American*, a connection was established that eventually led to the formation of the Hearst-Selig newsreel.

Like the Lumiere Brothers, Charles Pathe from the first made pictures that were along topical lines. In 1909, he crystallized the screen news idea in Europe by the introduction of a full reel of news flashes. It was the Pathe Weekly. It had the famous Pathe Rooster trade mark. The public demand for news presented with the facileness of the screen prompted Pathe to establish in France the Pathe Journal. It was a little theatre devoted entirely to the newsreel.

Pathe, with J. A. Berst as manager, opened an American branch at Bound Brook, New Jersey, in April, 1910. At this time the Pathe Weekly was introduced in the United States. H. C. Hoagland was its first editor, and J. A. Dubray, who may be said to be the pioneer cameraman of newsreeling, was its first cameraman. Mind you, that was in 1910 when the motion picture was indeed still young.

The newsreel was immediately popular here. The pioneer American picture men had tried in desultory attempts to dramatize news events into a story. Now came the Pathe Weekly, which concentrated on news for its own sake. It started, in this country, with local news around New York, until shortly it required the services of additional men. Victor Milner, Faxon Dean and Eddie Snyder were among the early cameramen assigned to newsreeling. The Pathe Weekly was first released in this country in December, 1910, and became a subsidiary to the Pathe Productions. It was released over the entire Keith-Albee and Orpheum Circuits. That was a distinct advancement for the news idea!

By 1913 the Pathe staff consisted of P. D. Hugon, the manager; Emanuel Cohn and Al Richard, editors; besides the cameramen already mentioned, Berton Steene, Bill Harrison and Ben Strutman were the staff men. Besides these men there were representatives in all the key cities.

In the autumn of 1911, Edgar B. Hatrick of the Hearst organization, became interested in the possibilities of a newsreel, but he met with the disapproval of the Hearst editors. As a newsreeler would say, his stuff was "in the alley," which signifies film which is consigned to the ash can.

However, he continued dabbling with the idea by independently making short news subjects until the inauguration on March 4, 1913, of Woodrow Wilson at which time he made a complete reel of Wilson. This was distributed through arrangements with Harry Warner, who was later to come into the limelight with the formation of Warner Brothers Vitaphone.

Now Colonel Selig again came into newsreel affairs with the making of "The Sinking of the Battleship Maine." Hatrick suggested an alliance with Selig. Then came a day when Selig went to New York to close a contract with Hearst. Then was born the Hearst-Selig Weekly, the forerunner of the International Newsreel. Ray L. Hall was its first editor. It was distributed by the Selig Polyscope Company through the General Film Company.

At this time the Universal Weekly was forming in Chicago with Joseph T. Rucker, U. K. Whipple and Frank Dart on the camera crew. Shortly after Universal the Gaumont Animated Weekly came to the screen in this country. The first Gaumont editor was Pell Mitchell; its first cameramen were Larry Darmour and Al Goad.



The flight in 1896 of "The Empire State, 999" created the first hair-raising sensation in newsreel history. From the original Biograph large film.

Newsreels had now lost their swaddling clothes; their appetite was for blood and thunder. The deeper flowed the blood the deeper waded its cameramen. They lived for the scoops they could score.

At this period such men as the famous newsreeler, Merv Freeman got his start. He had been in the movie game many years. In 1906, he had been a projectionist at the Nicklette—a five-cent theatre—in New Orleans. That was the time when it was necessary to turn the projectors by hand and run the film down in baskets.

After the reel was through the audience got a four minute and fifty-five second "intermission"; at least that was Merv's record of rewinding the film in readiness for the next show. Then he worked only fourteen hours a day; now he is on call, as are all newsmen, twenty-four hours a day, ready either for a trip to the Chinese War or just down to the train to "get" a celebrity. Recently when he went to the Orient to cover the war, he got a wire the day before he was to sail.

His "opposition," or as we would say, some of his brother newsreelers, called him a "dirty double crossing buzzard." To him that appellation means as much as a decoration does to a soldier. It is an award; he glories in its distinction. It has served to urge him on! It means that he always puts the picture "in the box" regardless of the means required to do it. He serves the public with news while it's hot. And for that his brothers call him names!

George J. Lancaster, with a merry eye, recalls the time the Secret Service were called to the wharf in Frisco in 1915. With true newsreel spirit, Lancaster held on to the camera leg so the opposition camera would not fall into the water, while pushing his opposition, Jean Castle, overboard. Lancaster got his picture while Castle got only \$75 for a new suit of clothes.

And it was forgivable when it was known that "all's fair, etc.," in their pursuit of hot news.

And then, there is the Newsreel-hound "Micky." He is a newsreel personality. He is the dog mascot owned by R. B. Hooper, who was the noted Kinegram newsmen when Kinegram was in its heyday. But returning to this dog character, he has gathered fleas from all ports in his 22,000 miles of globe trotting. He has been in both the highest elevation in an airplane and the lowest in a submarine. Like his master, he's a newsreel hound.

Now comes the affairs of the war. The Pathe and Heart-Selig were outstanding in their war among themselves in their attempt to get the news. They used "scoop news" on their opposition for explosions; a can a film from some pet battle would give their opposition shell shock. To get a picture of a German retreat—or an advance for that matter—was worth the sacrifice of at least an arm. It would give the opposition newsreel several days' setback; several of the opposition necks would be risked among the Big Berthas in an attempt to better it. They haunted the German machine gun nests—camera shooting; anything in order to tell what England and France were doing to Germany and visa versa.

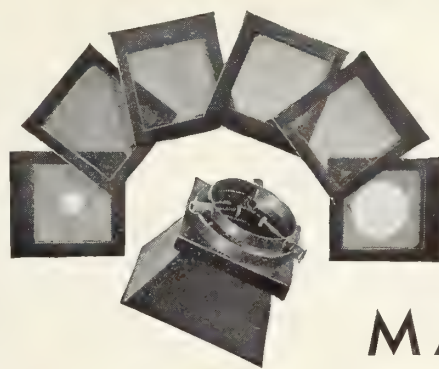
On April 6, 1917, the United States declared war on Germany. George Creel was appointed chairman of the committee that organized the Department of Public Information. Their job was selling the war to America. It was a difficult assignment to be both censor and press agent in the war. American setbacks were not to be shown and their advances were too fast for even the speedy newsmen. So news in many instances was manufactured. Night scenes shown on the screen sometimes were negatives rather than positive prints. The news had to be padded and faked. The war pictures were made for a time by a handful of cameramen in the Signal Corps.

Among others, Larry Darmour, Merle La Voy, Donald Thompson, Ash Meade-Bartlett and Ariel Vargas will go down in history as the news cameramen who cared little for their necks during the war. That for the war.

Time passes. In June, 1927, Emanuel Cohen and Al Richard left Pathe Weekly and organized the Paramount News with offices in the Paramount Building, 544 West 43rd St., New York. With them went many of the ace news men, who were the pioneers in newsreeling. Paramount News swept the world like a storm. The Paramount men trekked the outlands and reported, besides news, those things not generally known, those quaint habits of other peoples, bringing to the screen a liberal education in ethnology and geography. They covered many earlier events, one of their important early reels was the Dole Flight to Honolulu. S. D. Greenwald, R. J. Johnson and R. J. Joverman were assigned to this and they did the job well. They were the only reels that "got" the crack-up of Capt. Irwin's plane.

Though they reported the Byrd Antarctic Expedition, Joseph T. Rucker and Willard Van Der Ver were the men that did this and for it they received an Academy of Motion Picture Arts & Sciences award.

A newsreel story would not be complete without mention being made of the Pathe scoop by Will E. Hudson of the Wilkins Arctic Expedition in 1927; or of the Paramount scoop in 1927 by George J. Lancaster of the famous caribou migration in the Yukon. Lancaster won the race to the screen over Harry Kluver of the International News only after many difficulties in the frozen north.



## THE WILLO EFFECT MATTE BOX

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get professional results

It fits any make of 16 m/m or 35 m/m movie camera—or any still camera whose lenses do not measure over 1 5/8 inches diameter—and it produces the beautifully diffused effects that one sees on the professional screen.

Six gauze mattes are supplied to produce different degrees of diffusion—from very light (for long shots and landscapes) to heavy (for close up heads, etc.)

The Willo Effect Matte Box is extremely light, yet sturdily and compactly built. It is designed to hold 2 inch square filters which can be used together with gauze matte.

Price,  
including six  
assorted gauze mattes

**\$5.50**

## WILLOUGHBYS

110 West 32nd Street  
New York City

Too, a story of the newsmen would be incomplete without mention made of Ray Fernstrom. One "beat" scored by him that stands out in the memory of theatre audiences was his 2400 mile flight starting on April 20, 1928, to cover the arrival of the German airship Bremen, in the first flight of its kind across the Atlantic. Regardless of snows, blizzards, unstopped by the furies of Labrador storms, he broke through first to interview the Germans. He got the only pictures. He was offered \$25,000 for an interview by an opposition newspaper.

With the introduction of sound in 1927-28 the whole of newsreeling was changed. It was then a race to the ends of the world between sound trucks and sound cameras. Though the spirit behind the race was the same, new difficulties were presented. They were surmounted.

The first sound newsreel was the Fox Movietone News. The first showing of this sound was a cycle of songs sung by Raquel Meller which was released in conjunction with "What Price Glory," on January 21, 1927. The sound had been perfected by Theodore Case.

Sound had at last arrived! Within a year the screen was quite a noisy affair. But that passed quickly; sound improved.

The newsmen's common enemy is whoever interferes with his pictures; his personal enemy is the opposition reel. To get by a patrol cop they will get together and start a rumpus somewhere in the neighborhood and when the cop comes to investigate they will sneak past the lines, but behold, the struggle among themselves after the photographing starts.

They are a wonderful bunch!



# HOLLYWOOD'S ALLIED INDUSTRIES

## THE LEICA DATA BOOK

The Leica Data Book by Karl A. Barleben, Jr., F.R.P.S., is on the stands at 50 cents a copy. It is from the press of the Fomo Publishing Company of Canton, Ohio, and lives up to its advance notices. Between its covers is a liberal education in Leica camera lore and its author, Mr. Barleben, has presented his material in convenient and attractive form. This little brochure is the best thing of its kind and nobody interested in the Leica should be without it.

## E. R. P. I. SIGNS CODE

Electrical Research Products have signed the President's Re-employment Agreement, Vice-President H. G. Knox stated recently.

Electrical Research Products is a subsidiary of Western Electric Company which had previously signed the agreement.

## FILMOTYPE

For owners of Filmo 70 type cameras who wish to experiment with their own 16 mm. sound recording equipment, Bell & Howell Company will install synchronous motors on such cameras. If the camera is not already equipped with a hand crank, that must be installed. A flexible cable to connect the hand crank shaft to the motor to eliminate vibration is also available.

## BELL & HOWELL SIGN UP

Bell & Howell Company has signed the President's blanket code for industry and therefore is entitled to use the NRA membership symbol in its advertising and printed matter.

## BIG MOVIE PROGRAM

With a battery of 75 portable 16 mm. sound-on-film projectors, just purchased from Bell & Howell Company, the Plymouth Motor Corporation is embarking on its most ambitious program of selling via movies.

Seven one-thousand-foot pictures, built for the most part around human interest and dramatic stories illustrating the advantages of the Plymouth car, will be used with the projectors.

## DISTINGUISHED VISITOR

Hollywood was recently honored by a visit from Sir Benjamin Fuller, who with his brother is the leading film figure in Australia with headquarters in Sydney, Australia. The firm name is Ben & John Fuller Theatres, capital 500,000 pounds. Sir Benjamin's organization owns 17 theatres in Australia, 20 in New Zealand and controls 56 houses in various parts of Australia. It is said that this great organization paid M-G-M alone for film last year \$205,000 for two theatres.

## STANDARD SOUND

The Standard Sound Recording Corporation, headed by Jack Miner, with studios at 220 East 38th Street, New York City, has become a Photophone recording licensee, it was announced from the New York offices of the RCA Victor Company. Under the terms of a new, limited license agreement, a complete Photophone High Fidelity recording system mounted on a mobile truck becomes available to the licensee for its sound recording requirements for a stipulated period during the year.

## GOING IN FOR PICTURES

We are pleased to learn that *Motor Boat Magazine*, edited by Gerald Taylor White, will include a photographic department commencing with the September issue. *Motor Boat Magazine* was one of the first publications in its field and is now again leading the way in including a photographic department. It is well-known that yachtsmen are ardent photographers, and a department devoted to photography in a boating magazine is a logical combination. The new department is to be edited by Karl A. Barleben, Jr., who is well known for his work in the various photographic publications.

Photographers are invited to read *Motor Boat Magazine* and lend it their support. It may be secured at all news stands at twenty cents a copy. Credit is due to Mr. White, the editor, for having the far-sighted vision to realize the close connection between photography and yachting.

## S. M. P. E. FALL MEETING

The Fall meeting of the Society of Motion Picture Engineers will be held at the Edgewater Beach Hotel in Chicago, October 16, 17 and 18, according to an announcement of the Board of Governors of the Society.

This will be the third meeting of the Society to be held in Chicago, the first having been held there in 1917, the second nine years ago. Chicago is an ideal selection this year, according to the board, since members may visit the Century of Progress Exposition while attending the convention, and because of the unusually low transportation rates being offered.

A feature of the meeting will be the announcement and inauguration of the newly elected officers of the Society. The semi-annual banquet will be held Tuesday evening, October 17.

## WILLOUGHBYS CATALOGUE

Willoughbys 16 mm. catalogue is off the press and may be had by writing to Willoughbys, 110-114 West 32nd Street, New York City.

It is an interesting little booklet of twenty-seven pages and every page of it is filled with information about 16 mm. that devotees of the amateur equipment can use in their business.

This time honored and widely known organization allows ten days' trial on any camera or projector purchased from its shelves and every item is sold on guarantee. Willoughbys can outfit the tourist promptly and satisfactorily and is justly celebrated as one of the great photographic supply concerns of the world.

## BUSINESS IS GOOD

Artreeves, otherwise the Hollywood Motion Picture Equipment Co., Ltd., report the sale of their famous Lito Test Machine to Dai Nippon Celluloid Company, of Tokio, and to Jorge Stahl, Mexico City.

This enterprising firm further reports that the outlook for foreign business, especially in the Orient, was never so promising.

## RUNS FROM GOLD RUSH

Friend Baker, camera expert, spent July and August in Vancouver, British Columbia, shooting shots for the Canadian Adventure Pictures Company, Ltd. The first was the story of a boy's life among the Squamish Indians. The second was a scenic of Vancouver harbor entitled, "The Table at the Bottom of the Sea." Mr. Baker reports a gold rush on as he left for Hollywood.

### ARTREEVES BULLETIN

A month ago Art Reeves of ARTREEVES hooked up his dog team, loaded mother and the girls into the ole sled and mushed away to the Century of Progress at Newsreelville, otherwise yeclpt Chicago.

There the Reeveses were met by a reception committee composed of Author Gene Cour and Bill Strafford of 666 and Antonio Caputo, of the "Valley" and all points north, east, south and west.

The Fair is located in Chicago's front yard and the committee at once escorted the Reeves family to the Big Show and proudly exhibited to them a thermometer 200 feet high and showing 84 degrees of heat at midnight. While mother and the girls were looking at the fall styles, Mr. Cour, having a lot of passes to all concessions, took the genius of "Artreeves" to see the free shows and treated him to a seance with Amos 'n' Andy.

This night was the time of the big take-off by Captain Settle for the photosphere and, to see the event with eclat, the committee took Mr. Reeves to the roof of the Hotel Stevens, twenty-nine floors up. The flight was scheduled for 8:30 but it was 3:10 a. m. before the newsreel fiends got through photographing the show and by that time Capt. Settle was so weak that when he pulled the valve cord to descend a few feet he couldn't let go and the balloon returned to Chicago.

All in all it was worth going to Chicago to see, especially the Hall of Science, the Electrical Building, the Palace of Transportation and the handsome hypo gang at Daily Newsreel lab.

### R-C-A-VICTOR

The first of a series of shorts featuring radio and stage personalities scheduled for production by the newly formed Magna Pictures Company headed by Meyer Davis and Monte Shaff, was completed on the Hudson River Showboat Peter Stuyvesant last week under the direction of Alexander Leftwich. The sound was recorded by RCA Victor High Fidelity apparatus mounted on a Photophone truck.

### 6500 EMPLOYEES

The RCA Victor Company, Inc., at Camden, New Jersey, manufacturers of radio apparatus, has signed the President's blanket N. R. A. code pending revision and final acceptance by the government of a code for the radio industry, Mr. E. T. Cunningham, president of the company, announced recently.

The RCA Victor Company employes approximately 6500 persons in its factory, laboratory and offices at Camden as well as branch offices throughout the county. To the limits of its ability, this company has always attempted to bolster purchasing power by maintaining a wage scale consistent with the traditions of leadership in the radio manufacturing field, Mr. Cunningham said. He declared he was heartily in agreement with the President's recovery program and welcomed the opportunity to enroll the RCA Victor Company under the banner of the Blue Eagle.

### ARROUSEZ RETURNS

According to prominent electrical engineers of the motion picture industry, the Monarch sound projector recently introduced by Frank Arrousez is the last word in sound projection achievement.

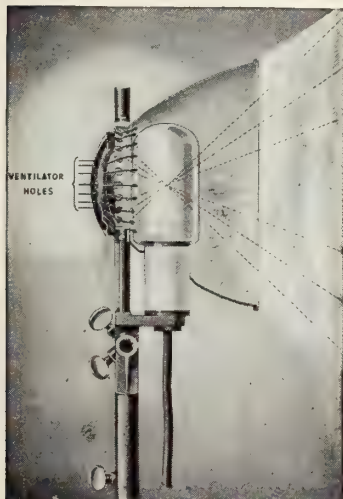
The equipment was developed and is being built by Mr. Arrousez, who as sales manager of the Monarch Sound Corporation, has given more than three years to perfecting the projector.

The popular Laco Lites, standard equipment in our prominent studios are products of Mr. Arrousez's engineering skill and he assures the industry that the same advanced features and high standard of quality that made Laco products the choice of exacting studio technicians are incorporated in the Monarch Sound Projector.

The new concern will maintain offices and a show room at 5951 Santa Monica Boulevard. Mr. E. C. Lowney, a prominent figure in the commercial world, having been associated with a number of larger eastern manufacturing enterprises, is president of the corporation.

"SOLITE . . . The Unit With An Optical System"

## Give Your Subject Professional Lighting With Solite's Professional Units



Phantom view SOLITE REFLECTOR showing special Ventilating Feature that assures maximum bulb life.

It's penny wise and pound foolish to spend good money on a fine camera—then economize unwisely on indoor illumination equipment. Listen to the EXTRA values your money buys in a SOLITE UNIT REFLECTOR: a lighting unit exactly engineered by a leading lighting technician. Equipped with mirror lens that *concentrates* and *multiplies* light output. Uses long-life, powerful T20-500 watt bulb . . . assures against rapid loss of illumination efficiency. SOLITE UNITS are self-contained. Use one or a dozen on the same Solite Tripod! Built ruggedly for a lifetime. PRICES: Solite Reflector, \$7.50; with Jr. Tripod, \$11. Solite Kit, with 3 Solites, 2 tripods, 2 cables, complete in case, \$42.50.

Ask About the New Solite

#### CONCENTRATOR LENS

Gives perfect diffusion without loss of light. Makes indoor color pictures easy. Fits any Solite. Price each, \$3.50.

(ALL PRICES SLIGHTLY HIGHER WEST OF ROCKIES)

Write for full information to

### SOLITE SALES COMPANY

1373 SIXTH AVE.

NEW YORK

DEALERS NOTE:—We will be compelled to increase prices October 1st. Place your orders early!

## SOLITE REFLECTORS

Preferred by the "Light-Wise" From Coast to Coast



SOLITE REFLECTOR, showing mirror lens that *concentrates* and *multiplies* light output.



### THE STUDIO TROUPE

"The Studio Chase Troupe" has been organized in Hollywood by an association of stunt and trick men led by Ernie Crockett and Hubert Diltz, pioneers for many years in this particular type of filming.

Other members of the newly organized company are Bobby Dunn, Joe Bordeau, Ernie Alexander, Spencer Bell, Charlie Phillips, Al Mazola, Jimmie Campbell, Bob Card, Rost Park, Teddy Mangan, Dick Dickerson, Buddy Mason, Bimbeau, Tom Foreman, Pete Morrison and Eddie Brandenburg. Needless to say, they require no introduction as they are the pioneer and ace stunt men in the business. The Studio Chase Troupe will

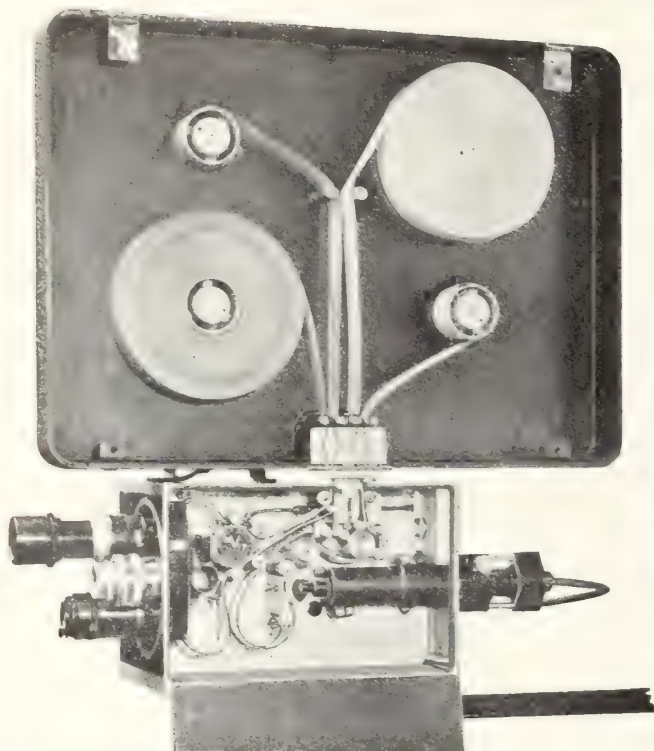
specialize in chases, stunts, trick photography, special effects, stock shots and spot locations and are especially equipped to do any kind of under water photography.

Thrills that have been termed impossible were made possible by the many years experience of Crockett and Diltz and the competent and courageous stunt men whose names appear upon the roster.

At last stunts, tricks and chases are on the film market at so much and no longer do the busy studios need to worry about some stunt that can't be done.

All the producer has to do now is to reach for his telephone, call "The Studio Chase Troupe" and forget it. The S. C. T. will do the rest.

### DeVRY QUALITY GUARANTEES DEPENDABLE LIFETIME SERVICE NEW DeVRY 1934 MODELS



**DeVry Sound Recording Camera for Double or Single Recording and Bi-pack color Recording.**

Magazine accommodates four 400 ft. reels—also 1000 ft.—also for bi-pack color recording. Complete outfit including amplifier, storage battery, B battery, Eliminator, glow lamp, tripod, 1 dynamic full range microphone and 1 carbon microphone, weighs less than 165 lbs.

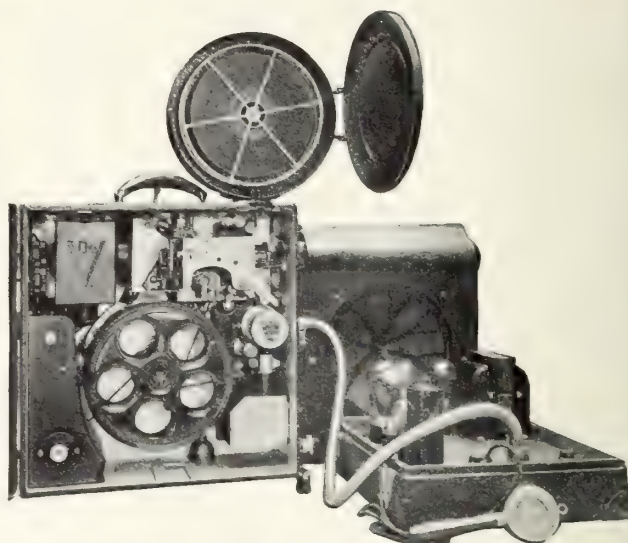
All major industries are resorting to sound movies in sales and advertising. Are you equipped to cash in on this business?

*Look in your Telephone Directory or write us for names of DeVry dealers and service in principal cities.*

**HERMAN A. DeVRY**

**1111 CENTER ST.**

**CHICAGO, ILL.**



**DeVry Portable Sound-on-Film Projector—Straight Feed Model.**

Film path in one plane direct from feed reel on top, to takeup reel below. Top magazine fits in case for carrying. The whole equipment in two convenient cases—includes amplifier, loud speaker, microphone and phonograph sockets, weighs 74 lbs.

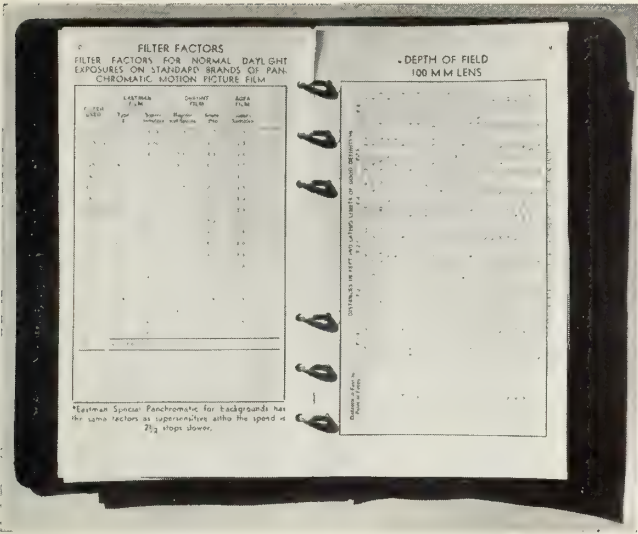
## EDUCATIONAL PROJECT-O FILM COMPANY **Southern California DeVRY Dealer**

**DeVry Sound Equipment — Sale or Rent**

**1611 Cahuenga Blvd.**

**Hempstad 7373**

**Hollywood, Calif.**



# Cinematographer's

# BOOK of

# TABLES

By FRED WESTERBERG

There are several more installments to come, concluding with the November issue, 1933, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 29; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 29 and 30. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index unless others are added.

This is the sixth installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

3 22

## ILLUMINATION

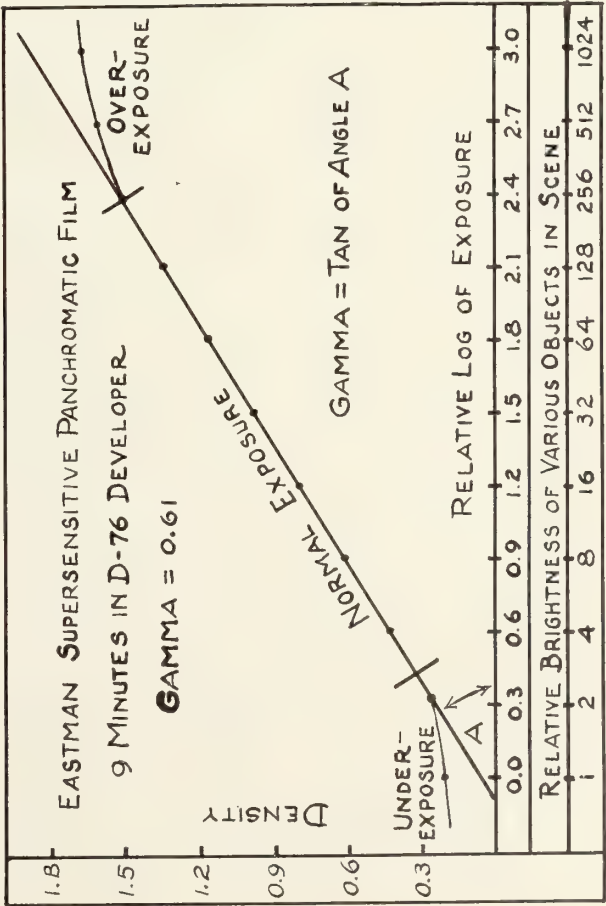
## SENSITOMETRY

### THE CHARACTERISTIC CURVE

TYPICAL H&D CURVE BASED ON THE RELATION BETWEEN THE LOG OF EXPOSURE AND THE DENSITY OF THE DEVELOPED IMAGE.

RELATIVE EFFICIENCY OF INCANDESCENT LAMPS WHEN OPERATED AT VOLTAGES ABOVE OR BELOW THEIR RATED VOLTAGES

Data by General Electric Co.									
Voltage Rating of Lamp	Voltage Delivered at Socket	Per Cent Light	Per Cent Watts	Per Cent Life	Voltage Rating of Lamp	Voltage Delivered at Socket	Per Cent Light	Per Cent Watts	Per Cent Life
110	100	86.2	72	27.5	110	100	80.7	61.6	390
110	101	87.6	74.5	250	110	101	82.0	64.0	360
110	102	89.0	77	230	110	102	83.2	66.0	340
110	103	90.2	80	210	110	103	84.5	68.6	310
110	104	91.6	82.5	190	110	104	85.8	71.0	285
110	105	93.0	85	170	110	105	87.0	73.0	260
110	106	94.3	88	155	110	106	88.3	76.0	240
110	107	95.8	91	140	110	107	89.5	78.0	220
110	108	97.2	94	125	110	108	90.8	81.0	200
110	109	98.6	97	112	110	109	92.2	83.5	180
110	110	100.0	100	100	110	110	93.5	86.0	165
110	111	101.3	103	91	110	111	94.8	89.0	150
110	112	102.7	106	82	110	112	96.2	91.5	135
110	113	104.1	109	74	110	113	97.5	94.5	120
110	114	105.6	112.5	67	110	114	98.8	97.0	110
110	115	106.8	115.5	61	110	115	100.0	100.0	100
110	116	108.5	119	53	110	116	101.4	103.0	90
110	117	110.0	122.5	47	110	117	102.8	106.0	82
110	118	111.4	126	42	110	118	104.1	109.0	74
110	119	113.0	130	38	110	119	105.5	112.5	67
110	120	114.4	133.5	34	110	120	107.0	115.5	60





## PIONEER GOES TO HIS LONG HOME

The sudden death of Mr. Archibald H. Van Guysling at his home in Los Angeles, California, August 6, from heart attack removes one of the early outstanding figures in the moving picture industry of Southern California.

Born in Albany, New York, January 10, 1871, he was a descendent of the fifth generation of Elias Van Guysling who arrived in New Amsterdam April 15, 1660, from Zealand, Holland, one of the early Patroons of New York City.

He arrived in Los Angeles in March, 1893, and later located with his family here. In 1904, upon the advice of his brother, Mr. G. E. Van Guysling, who at the time was general manager of the old Biograph Company, at 11 East 14th Street, New York City, he went east, spending a year there in familiarizing himself with the moving picture industry. Returning to Los Angeles he became associated with Mr. Otis M. Gove, a photographer of outstanding ability, and they opened a branch at 2623 West Pico Street, Los Angeles, under the name of the American Mutoscope and Biograph Company.

The first moving picture made on the West Coast for general exhibition service they shot June 10, 1906, at Plummer's Rancho in Colegrove at Santa Monica

Boulevard and Vista Streets in the present Hollywood, this occasion being the annual field day of the Vaquero Club of which Mr. Van Guysling was a member. This event, in greater details, presenting titles of moving pictures and productions with names of parties participating, etc., was covered in THE INTERNATIONAL PHOTOGRAPHER of June, 1932.

Mr. Van Guysling retired from active business some years ago to devote his last years to his family circle. He was a member of the Holland Society of New York, Golden State Lodge No. 358 F. & A. M., Los Angeles Consistory S. R. 32. His funeral, held August 8 at Pierce Brothers' Mortuary, under auspices of the Masons, was largely attended; burial in his family lot at Inglewood Park Cemetery. Deceased left wife, two daughters and a son, all married, to mourn his loss.

### DO YOU KNOW

(Back Flow from Out of Focus)

That this department supports the N. R. A. and does not hire child labor; though at times it may seem as if a child were writing it.

That CHUCK GEISLER donates the following: "Hallelu! I'm a dime again," as sung by the dollar.

That I have been in a jurisdictional dispute and have been locked out since last September.

That I wonder if anyone sent for the free, week's trial of Normalettes.

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4

## SENSITOMETRY

### CONVERTING DENSITY READINGS TO GAMMA.

GAMMA READINGS FOR USE WITH SENSITOMETRIC STRIP IN WHICH EACH STEP OF THE EXPOSURE SCALE REPRESENTS AN INCREASE IN EXPOSURE EQUIVALENT TO ONE-HALF STOP

Average Density Increase Between Two Exposure Steps	GAMMA	Average Density Increase Between Two Exposure Steps	GAMMA	Average Density Increase Between Two Exposure Steps	GAMMA
.005	.033	.155	1.033	.305	2.033
.010	.067	.160	1.067	.310	2.067
.015	.100	.165	1.100	.315	2.100
.020	.133	.170	1.133	.320	2.133
.025	.167	.175	1.167	.325	2.167
.030	.200	.180	1.200	.330	2.200
.035	.233	.185	1.233	.335	2.233
.040	.267	.190	1.267	.340	2.267
.045	.300	.195	1.300	.345	2.300
.050	.333	.200	1.333	.350	2.333
.055	.367	.205	1.367	.355	2.367
.060	.400	.210	1.400	.360	2.400
.065	.433	.215	1.433	.365	2.433
.070	.467	.220	1.467	.370	2.467
.075	.500	.225	1.500	.375	2.500
.080	.533	.230	1.533	.380	2.533
.085	.567	.235	1.567	.385	2.567
.090	.600	.240	1.600	.390	2.600
.095	.633	.245	1.633	.395	2.633
.100	.667	.250	1.667	.400	2.667
.105	.700	.255	1.700	.405	2.700
.110	.733	.260	1.733	.410	2.733
.115	.767	.265	1.767	.415	2.767
.120	.800	.270	1.800	.420	2.800
.125	.833	.275	1.833	.425	2.833
.130	.867	.280	1.867	.430	2.867
.135	.900	.285	1.900	.435	2.900
.140	.933	.290	1.933	.440	2.933
.145	.967	.295	1.967	.445	2.967
.150	1.000	.300	2.000	.450	3.000

Only those density readings which fall in the straight line portion of the characteristic curve should be used in computing Gamma.

## ANGLE OF VIEW

### 16 mm. FILM

### ANGLE OF VIEW AND SIZE OF FIELD EMBRACED BY LENSES OF VARIOUS FOCAL LENGTHS

Distance in Feet to Subject	ANGLE OF VIEW WHEN FOCUSED AT INFINITY							
	15 mm. Lens		20 mm. Lens		25 mm. Lens		75 mm. Lens	
	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle	Vertical Angle	Horizontal Angle
	27.0°	35.6°	20.5°	27.1°	16.4°	21.9°	5.5°	7.4°
Height and Width of Subject in Feet included in Picture								
1	.48 hv	.64	.36 hv	.48	.28 hv	.38	.094 hv	.125
2	.96 hv	1.28	.72 hv	.96	.57 hv	.76	.190 hv	.254
3	1.4 hv	1.9	1.1 hv	1.4	.86 hv	1.15	.285 hv	.38
4	1.9 hv	2.6	1.4 hv	1.9	1.1 hv	1.5	.38 hv	.51
5	2.4 hv	3.2	1.8 hv	2.4	1.4 hv	1.9	.48 hv	.64
6	2.9 hv	3.8	2.2 hv	2.9	1.7 hv	2.3	.58 hv	.77
7	3.4 hv	4.5	2.5 hv	3.4	2.0 hv	2.7	.67 hv	.89
8	3.8 hv	5.1	2.9 hv	3.8	2.3 hv	3.1	.77 hv	1.02
9	4.3 hv	5.8	3.2 hv	4.3	2.6 hv	3.4	.85 hv	1.14
10	4.8 hv	6.4	3.6 hv	4.8	2.8 hv	3.8	.96 hv	1.28
11	5.3 hv	7.0	4.0 hv	5.3	3.2 hv	4.2	1.0 hv	1.4
12	5.8 hv	7.7	4.3 hv	5.8	3.5 hv	4.6	1.1 hv	1.5
13	6.2 hv	8.3	4.7 hv	6.3	3.7 hv	5.0	1.3 hv	1.7
14	6.7 hv	9.0	5.0 hv	6.8	4.0 hv	5.4	1.4 hv	1.8
15	7.2 hv	9.6	5.4 hv	7.3	4.3 hv	5.8	1.4 hv	1.9
16	7.7 hv	10.3	5.7 hv	7.8	4.6 hv	6.2	1.5 hv	2.0
17	8.2 hv	10.9	6.1 hv	8.2	4.9 hv	6.5	1.6 hv	2.2
18	8.6 hv	11.6	6.5 hv	8.7	5.2 hv	6.9	1.7 hv	2.3
19	9.1 hv	12.2	6.8 hv	9.2	5.5 hv	7.3	1.8 hv	2.4
20	9.6 hv	12.9	7.2 hv	9.7	5.8 hv	7.7	1.9 hv	2.6
25	12.0 hv	16.1	9.0 hv	12.1	7.2 hv	9.6	2.4 hv	3.2
30	14.4 hv	19.3	10.8 hv	14.5	8.6 hv	11.6	2.9 hv	3.8
35	16.8 hv	22.5	12.6 hv	16.9	10.1 hv	13.5	3.4 hv	4.5
40	19.2 hv	25.7	14.4 hv	19.3	11.5 hv	15.4	3.8 hv	5.1
45	21.6 hv	28.9	16.2 hv	21.7	13.0 hv	17.4	4.4 hv	5.8
50	24.0 hv	32.2	18.0 hv	24.2	14.4 hv	19.3	4.8 hv	6.4
60	28.8 hv	38.6	21.6 hv	29.0	17.3 hv	23.1	5.8 hv	7.7
70	33.6 hv	45.0	25.2 hv	33.8	20.2 hv	27.0	6.8 hv	9.0
80	38.4 hv	51.4	28.8 hv	38.7	23.1 hv	30.9	7.7 hv	10.2
90	43.2 hv	57.8	32.4 hv	43.4	26.0 hv	34.7	8.6 hv	11.5
100	48.0 hv	64.3	36.0 hv	48.3	28.9 hv	38.6	9.6 hv	12.8

Based on standard projection aperture .284 by .380 of an inch.

Note difference between 16 mm. and 35 mm. tables: 16 mm. table is based on picture as seen on the screen. 35 mm. table is based on picture seen on the ground-glass.



## DeVRY NEW SOUND RECORDING CAMERA

By A. P. Hollis

The De Vry New Sound Recording Camera is a real boon to the cameraman who has to cover newsreel location and studio assignments, to the cameraman who needs a light weight outfit that can be packed in a few minutes in a couple of "suit cases"—and that will give him clear tone and pictures of the quality demanded by the modern theatre.

Readers of this magazine may remember that the original De Vry Sound Recording camera was for single recording only, the complete outfit weighing but 150 pounds.

Now comes the announcement from the De Vry factory in Chicago, that the latest model De Vry Sound Camera is for both double and single sound recording—and also for bi-pack color recording. Only a few pounds have been added to the original weight and this slightly added weight is due to the larger magazine necessary to accommodate four 400 foot or the 1000 foot reel.

The De Vry is thus a truly general purpose sound camera, for regular location and studio work. Here is good news to the boys who want more latitude in their sound prints at a minimum of weight and expense, and at a high quality level.

The De Vry Sound Camera played a conspicuous part in the premiere of "Hollywood at the Fair" and has had thorough going tryouts by professional cameramen elsewhere. It is a real contribution to the sound camera field and our readers are urged to write Herman A. De Vry, Inc., 1111 Center Street, Chicago, for full particulars.

## PURSUIT OF THREE DIMENSIONAL PICTURES

(Continued from Page 23)

powers of persons, who, through accident or surgery, have lost as much as one-half of the brain structure itself, including part of the supposed hemispheric centers of sight, a reasonable doubt may be cast on the information offered hereto by physiology.

The mere attachment of labels to processes which have mystified mankind is far from being a solution of the essence of those processes and cataloguing phenomena is no index at all to the nature of the underlying numenon. Further, findings summarized from reports of experiments by Wundt, Andral, Ferrier, Fournie, Charcot, Hitzig and others are replete with discrepancies and contradictions, making it impossible to receive their views with more than provisional acceptance.

However, a physiologist in the person of Dr. John C. Dalton, Jr., made an interesting contribution to the lore of stereoscopic research with the following statement: "Our impressions of distance and solidity in viewing external objects are produced mainly by the combined action of the two eyes. For, as the eyes are seated a certain distance apart from each other in the head, when they are directed toward the same object their axes meet at the point of sight and form a certain angle with each other; and this angle varies with the distance of the object. Thus, when the object is within a short distance, the axes of the two eyes will necessarily be very convergent and the angle they form with each other a large one; but for remote objects the visual axes will become more nearly parallel, and their angle consequently smaller. It is on this account that we can always distinguish whether any person at a short distance is looking at us, or at some other object in our direction, since we instinctively appreciate from the appearance of the eyes, whether their visual axes meet at the level of our own face."

Note also this clear, though guarded, statement, that the eye is able in a limited degree to actually see distance: "The ability to accommodate itself to different distances, which the eye possesses within certain limits

## New H.C.E. Combination Sunshade - Filter Holder



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and which is accomplished by means of an antero-posterior movement of the crystalline lens, enables it to measure, approximately, the distance of the objects."

So, the circle slowly completes itself. After starting with the common consent of mankind on a proposition to which the most ignorant savage would give agreement, namely that we possess the ability to see in three dimensions, we traversed that reign of skepticism in which all accepted beliefs, no matter how firmly established, in the physical as well as the mental, moral and political world, were doubted and if found to suffer from even partial obscurity, were denied. Because the ingenuity of philosophers could plausibly controvert the everyday experience of men, they were taught that the testimony of their eyes was a delusion. Then a new set of men armed with scalpel and probe came forward and offered evidence of bodily structure which they had dissected and pondered over. Cautiously they reaffirmed our original untutored conviction—"We can see distance," but adding, "if we have two eyes."

With the abandonment of speculative theories and the tendency to concentrate on the mechanics of sight the question of stereoscopy has finally come to rest within the realm of engineering and physics, where it rightfully belongs. And who will be so bold as to scoff at the eminence of success in this development after reading in the June issue of the International Photographer an article describing the startling and unique devices employed by Dr. Ives, of the Bell Laboratories, to project pictures in relief. Also the analysis by Professor Haupt in the May and June issues of our magazine is at least hopeful. Hamlet was probably the first man to use the panel displacement idea, for, when he was giving the Queen hell, he said: "Look here, upon this picture, and on this."

"Protruding Productions" and "Bulging Barkies" may yet open a new gate into that orchard where the Golden Apples grow.



## AREA DISTRIBUTION

(Continued from Page 16)

moved, screened to bring about the "pin point diffusion" effect. They were then turned on a 90-degree angle, masked off 16" from the top with 2500-bristle velour, back-to-back and rehung in the towers, parallel with the screen, 7¼" therefrom. 72%-512 co-efficient absorption material was placed on the floor of the set and a velour ground cloth was tacked to the stage apron from the screen line to the footlights. These operations required three men and took sixteen hours to complete. The cost to the theatre was \$450.00.

The net result was: Echoes, none, reverberatory time: 1.5 seconds with a 25% audience, speech distortion, overtones and blasting: none, distribution: front, center, rear and balcony equal in both volume and amplitude, synchronization: orchestra floor to balcony line 2/5 seconds, under balcony and in balcony 3/5 seconds. Pronounced entirely satisfactory by manufacturers' and owners' sound engineers; also by district and house manager. Set-up to our knowledge untouched after twelve months' operation.

Innumerable "case histories" might be given, due to the fact that each auditorium represents its own individual engineering problems. However, an attempt will be made in this article to show just how the "area distribution" principle differs from that of "volume content," upon which all present day installations are based.

To begin with, a "volume content"-engineered set-up must necessarily rely upon deflection to serve all parts of the auditorium. In doing so, three general types of transverse waves are brought into play. They are known in their simple form as horizontal-, perpendicular- and oblique-transverse. These waves multiply themselves profusely, when not absorbed or trapped, since each deflection contact changes their angle and when atmospheric conditions permit, have a tendency to lengthen the reverberatory time 200 and sometimes 300 per cent.

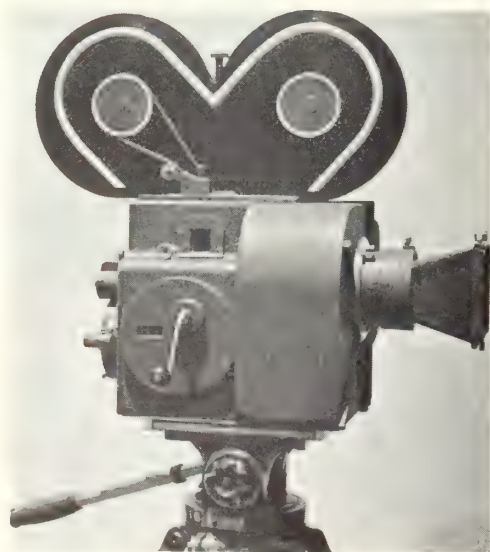
Auditory conditions are further aggravated, since longitudinal wave penetration is definitely retarded, causing synchronization to suffer.

Again one pauses to ask this question: "Why not minimize transverse waves in the first place?"

That, seems to be logical and also offers a solution. "How can this be accomplished?"

The reader will note, in lowering the speaker position and elongating the sound source area, if properly effected, perpendicular- and oblique-transverse waves are practically eliminated. Now, all that remains to be done is, the proper synchronization time and wave dissipation speed to be brought about. This can be done with the correct alloy screen, the judicious use of suitable velour masking and proper screen (projection) spacing. Such minor items as bringing about parabolic efficiency reduction, near-perfect illusion and brilliance adjustments, vary, and must be figured for each individual job.

# "No More Blimps"



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Camera "blimps" have served their purpose . . . they have retarded the flexibility of the camera . . . delayed operation . . . cost additional cartage . . . been expensive to maintain.

We have discarded the "blimp" . . . Our RECONSTRUCTION SILENCING gives you in addition to its wonderful silent features, patented mechanical and optical features that are startling. Our RECONSTRUCTION SILENCING converts all standard Bell & Howell or Mitchell cameras into silent, lightweight, speedy, externally operated mechanisms, meeting the requirements of modern recording without the use of the "blimp."

The price is reasonable, for either Bell & Howell or Mitchell cameras—\$1750.00. Weight, camera with magazine, 87 lbs. Dimension base of camera, 12" x 12". Height 12".

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## SHACK IS BACK



James B. Shackelford, world-famous cinematographer, and official photographer on two trips to the Gobi Desert with Roy Chapman Andrews is back in Hollywood after a six months cruise among the islands of Oceanica. He spent much time among the Fijis and brought back 50,000 feet of wonderful film and a ton of stills after his inimitable style. Mr. Shackelford will tell his story in the October International Photographer.

## THE NEWSREEL WORLD

(Continued from Page 14)

power: I am especially impressed by the lack of sign boards, a delightful feature you will agree. All traffic must be kept to the left. Why, I don't know, but I'll bet there must be a good reason. I thought at first this must have started with sea traffic, since Swedes have been seamen from the start, but that theory went on the rocks when Bertil told me they sail boats to the right.

Because of an ever increasing influx of foreign tourists, train travelers on the excellent Swedish State Railways, and motorists, words have given way to pictures. Maybe a tip for some movie producer. For example, a railroad crossing sign has a picture of a locomotive; a bridge is shown in a very clear drawing of a bridge. If there is a hump in the middle of the bridge shown, one had better slow down even if there is no speed limit on the open road.

Even hotels use pictures in place of words. In our hotel, where I am striving to make this readable, there are four little photos beside four little buttons. Room service is shown by the waiter carrying a tray; maid service is indicated by a girl with a broom and pail and a porter with a tiny picture of this capable person carrying baggage.

While on the subject of hotels, let me relate an interesting detail. There are many rooms with bath, but rooms without bath have bathmaids. Not beautiful dames, perhaps, but strong when it comes to scrubbing a man's back with salt and Scandinavian soap, or applying their huge thick Turkish towels. When ready for this event one rings for a bath; the bathmaid comes with a bath robe and shoes, both made of turkish toweling. She then escorts one ceremoniously to the bath—like a prison matron in the movies. After such an experience one's skin becomes red for days, but clean as a Swedish kitchen, you may be sure.

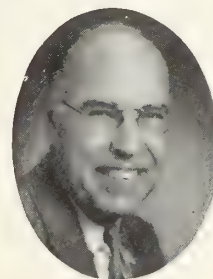
With best wishes to yourself and the staff,

As ever, sincerely and fraternally,  
RAY FERNSTROM.

## FIFTY PERCENT GAIN

Photophone theatre sound equipment business for the first half of August was 50% ahead of last year with a steadily increasing volume of orders indicating that the figures for the whole month will exceed last year's total by 100%, according to an official of the RCA Victor Company. Photophone business for July also showed an increase of 33 1-3% over the year before.

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## THE CHICAGO SCRAPBOOK

(Continued from Page 17)

... and when the clock gets around to three, Settle finally crawls into the gondola of the balloon, a few more last minute ceremonies and the command "Up ship!" is given ... swiftly Settle ascends in his stratosphere balloon as a tired but still zealous crowd cheers huskily ... Army searchlights play on the gas bag as it mounts higher and higher and as the mob starts to leave the huge stadium a tired army of newsreelers pack up their equipment and wish they had their film shipped ... it's been a long weary night ... almost four A. M. ... the gang is moving the sound trucks out of the stadium gates ... suddenly an alarming cry swings like a tidal wave through the mob ... the balloon is coming down! ... just west of the Loop district ... everybody surges that way ... ambulances scream down the streets ... and tired newsreelers realize the day is not ended ... an anti-climax to a story ... and a new battle begins ... getting sound trucks through one of Chicago's biggest traffic tangles ... it seemed every automobile in Chicago clogged into the highway leading to where Settle was forced down ... sound trucks cutting in and out ... over sidewalks ... down railroad tracks ... through a mob of 25,000 sightseers ... then the dazzling white light of the magnesium flares ... shot after shot ... grinding away on a camera with one hand and fighting excited "coppers" with the other ... The Lord bless the inventor of the Akeley camera handle ... newsreelers have found another use for it many a time other than using it for panning purposes ... and as dawn came over the railroad yards, completely tired newsreelers raced for the morning air mail ... a stratosphere flight had begun ... and ended ... Did you see the newsreel of it at your favorite theater? ... It ran one minute and a half on the screen.

## CHIVALRY IN 1933

There's a deserted section on the west side of Canal Street in Chicago; it runs for several blocks and is completely deserted save for the ash heaps on it ... sort of a no-man's-land ... In recent years it has become the habitat of the down-and-outers ... just passing through ... Many a Bo' has cooked himself a "mulligan" here ... The other day a weird, pompous rite took place here ... All the best, real Bos of America gathered here, in their "Jungle," to knight the outstanding ones of their kind ... It was the 25th annual convention, the Silver anniversary of the Hoboes of America ... Solemnly Jeff Davis, King of the hoboes, mounted an improvised platform and called them up, one by one, announcing to each candidate that he was now having the honor of "Knight of the Road" bestowed upon him ... No purple raiment around "King Jeff" ... He stood in his shirt sleeves, and his baggy trousers were no detriment to King Jeff's pompousness ... A husky voice uttered King Jeff's ritual, but it had the finesse and


polish of the true ruler ... his candidates did not march up before him in the splendor of groomed uniforms and gold braid ... No, sir! There was old "Dan O'Brien" in his overalls; the dean of philosophers of hoboism and to see old Dan stand there with his long white locks framing his wise, kindly old face, one knew it could not be contested that old Dan was deserving of this knighthood being bestowed upon him ... There was famous Dr. Ben Reitman, the friend of the hobo, who had left his office in the roaring Loop to come over to the quiet of the "Jungle," behind Canal Street, to take his title, justly deserved, as a Knight of the Road ... One by one, King Jeff knighted his honored guests ... the knighthood of service to fellowmen who may be down, for the time being ... This knighthood was deserved only by those who had made some personal sacrifice; a personal sacrifice, to help a brother who was suffering; and as the ritual progressed the sordid surroundings took on a cloak of beauty to the spectator ... even here in the dumps of Canal Street the beauty of human nature helped transfigure the homely into the lovely ... and as King Jeff finished he extended his hand to each new knight ... Beau Gest ... chivalry still lives ... you can find it if you look for it ... sometimes even among the ash-heaps ... a few newsreelers recorded the event ... and as the ceremony ended, King Jeff reciprocated, to the knights of the celluloid, for their kindness in recording the ceremony ... One by one, they were called up to the throne of "King Jeff"; and were sworn into "Life Memberships of the Hoboes of America" ... Eddie Morrison, Phil Gleason, Wayman Robertson, Harry Hall and Red Felbinger ... all brother 'Boes now ... and the oath they took, to get their right to flash the Bo card ... "Never to turn down a brother who may be down and out!" ... and then King Jeff shook hands with the Knights of the Celluloid ... now brother 'Boes ... of such stuff men are made!

Monty's having many a sleepless night now ... he alleges that as soon as he gets one to sleep, then the other awakens and Monty starts his march all over ... and so on into the night ... Jack Barnett has returned from the storm center of the Pennsylvania coal disorders where he got pushed around plenty by the strikers, as he admits ... for company he had our old pal Al Mingalone, the drumming newsreeler out of New York ... J. Gleason admits he now knows every detour around the little Indianer burg, named Crown Point ... Orlando Lippert, it looks, is trifling nobly with the bliss of single freedom ... and into town pops one of the local boys who went west ... George Gibson makes the rounds of cranker town to say "Howdy" to boys he formerly groomed over the hypo tanks at the old Rothacker plant out on Diversey ... they're all in offices now ... and goodly bunch of them are lugging newsreel boxes ... glad to see you, George ... Norman Alley has again taken to the airways ... not a trans-Atlantic crossing this time, with a Flying Famby, but to vacation with

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his family up in New Hampshire . . . while his partner, Jerry Altfilisch, of that ill-fated venture, now explains to spectators over at Hollywood-at-the World Fair, how movies are made . . . Charlie David still grinds away at Hollywood as chief cameraman . . . with Max Markmann assisting him . . . and so down to Ches's Place for a nightcap . . .

### SOLITE REFLECTOR

An impressive advancement in indoor photographic illumination is ushered in by the Solite Unit Reflector, the creation of one of this country's foremost lighting technicians. Entirely different in shape, its scientifically designed parabolic aluminum reflector produces brilliant light through a 90 degree angle, assuring a maximum concentration of light without wastage. Equally interesting is the mirror lens, so placed as to powerfully multiply the light output. A patented ventilating feature prevents overheating and assures maximum bulb life without rapid loss of lighting efficiency of the T20-500 watt bulb it uses. The unique construction of the Solite Unit Reflector well merits the title that it enjoys: "The unit with the optical system."

An unusual degree of flexibility of handling is attained by the fact that the Solite Reflector is constructed as an independent, fully self-contained unit. Multiple mountings of Solites can thus be quickly and conveniently arranged, to produce every desired professional lighting effect—vertically, horizontally or in banks of as many as eight, all on the same Solite Tripod.

All Solite Reflector parts are of heavy duty construction for safe handling and long service. Of special interest is the Solite Kit, completely equipped with 3 Solites, two Solite Tripods and other important accessories, all conveniently packed in a handy case.

Another valuable Solite contribution to indoor photographic illumination is the Solite Concentrator Lens which gives perfect diffusion without loss of light. The soft, mellow light it produces is of especial importance in taking color movies. The Concentrator Lens fits over the regular Solite Reflector.

### WORLD'S LARGEST SOUND PLACQUE

The new Camden automobile Drive-In Theatre has erected a huge wooden sign facing the automobile traffic of Admiral Wilson Boulevard, which reads: "This Theatre Is Equipped with RCA Victor Photophone High Fidelity Sound." The sign measures 16½ feet by 12½ feet, and is an enlarged version of the standard metal plaque furnished to exhibitors whose houses are equipped with the High Fidelity apparatus.

### CAMERAMAN-PRODUCER

One of Hollywood's prominent cameramen (name and details later) announces that he has arranged with Mr. Harry Backus, well known mining man, to produce a series of eighteen aviation shorts—something rather novel in filming, particularly as they are to be comedies.

Sid Saylor will be the featured star of the series and production will be commenced early in September or as soon as Mr. Backus returns from the mines.

The latter is enthusiastic about motion picture production and the new series will be made as attractive as skill, experience and money can make it.

Our cameraman friend is to be congratulated upon his enterprise in getting into production at this time and upon doing something new under the cinematographic sun.

### JIMMY

Said a popular star to a cameraman, recently, when they were discussing the matter of diet and fasting: "I can state it all in a few homely words—when you get your face all right you jimmy up your legs and when you get your legs all right you jimmy up your face—to get them both all right at the same time is the precious secret—and—it can be done."

### N. R. A.

The proposed movie code prevents employees of the studios from securing extra work for their relatives. Thus, the N. R. A. will stand for: "No Relatives Allowed."

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## LIGHT FILTERS

(Continued from Page 10)

3N5 at  $f/4$  and similarly exposed negatives will be obtained, although the filtered scene will show a somewhat different relation between the sky and the foreground due to the selective absorption of the filter.

It must be borne in mind that the values listed in Figure 7 are very accurately computed. It is well realized that many of the stops indicated are not marked on any lens mounts. Therefore, a lens stop nearest the value listed for any specific filter will be entirely satisfactory in practical work, due primarily to the exposure latitude of the Super-sensitive Negative. Success in the use of this table of data depends upon the correct choice of the unfiltered shot. Naturally if a cameraman has inadvertently selected an incorrect unfiltered condition of exposure, it is only reasonable to assume that the use of the filter factor for any filter from this table will likewise give an incorrect exposure. It is readily seen, therefore, that the basis from which this table is to be used is the cameraman's knowledge and ability to properly expose film when no filters are introduced into the optical system of the camera.

The filters listed in the accompanying table are those used to the greatest extent in normal cinematography. Filters for special effects, such as for color work, have been excluded as their use is for a distinctly different purpose and for such filters balanced exposures are not necessarily desired. In the case of night effect filters, such as filter No. 72, no filter factor is given for the reason that it is not desirable to obtain a fully exposed negative for this purpose. It is common current practice to make night shots in the daytime and to accomplish this with some degree of satisfaction the use of a deep red filter such as the 72 is employed. This filter absorbs all visible light except red and in so doing produces an effect in the print which gives one the feeling of night. It is recommended in this table of data, therefore, that this filter be used at full aperture.

### *Practical Filter Photography*

All the preceding chapters in this article on filter photography have dealt almost exclusively with theoretical and semi-theoretical considerations. The purpose in mind was to give a thorough understanding of what filters are and why they are used. The remainder of this filter story will deal with the practical use of color filters in cinematography.

The use of color filters in practical cinematography was never very extensive and did not assume any real importance either to the cameraman or to the quality of the results obtained until the general adoption of panchromatic emulsions in 1926-27. Prior to this time orthochromatic (regular negative) emulsions were used almost exclusively and due to their limited color sensitivity the application of filters to such types of film played a very small part. Prior to 1927 relatively few pictures, and in most cases only sequences in pictures, were shot with panchromatic film. Its use was almost exclusively confined to exterior photography. This was fundamentally due to the fact that mercury vapor lamps and white flame carbons were the sources of illumination. These light sources with their preponderance of blue emission did not lend themselves adequately to the red sensitive panchromatic emulsions.

Probably the first picture on which panchromatic negative was used for all exterior sequences was "The Headless Horseman," starring Will Rogers and produced by the Hodkinson Corporation in 1922. This picture was shot by one of the authors of this paper. Orthochromatic super-speed negative was used for the interiors. The exterior sequences on panchromatic film made use of two light filters: the K1 filter was used on all general exterior shots, while the No. 25 (red) filter was used for night effect shots in conjunction with a Bausch and Lomb  $f/2.7$  lens wide open with the camera cranked at half speed to allow for sufficient exposure.

The No. 25 filter when used with the panchromatic film available in 1922 produced an effect which is now almost entirely eliminated with current emulsions, present type of makeup, and a better choice of filters. This effect which is referred to is the extremely white rendition of the faces of the actors.

Early in 1927 the original Eastman panchromatic motion picture negative film was formally introduced to the cameramen in Hollywood although it was available and in use prior to that time. There was naturally much discussion relative to the use of light filters with this type of film and in a great many instances incorrect filters were used and over correction resulted quite frequently. The subject of makeup received very careful consideration and much was done along this line to eliminate "washed out" faces. During the year 1928 an

(Concluded on Page 37)

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## SOUND TRACK MECHANISM

(Continued from Page 11)

respective films so as to permit of their ready and accurate identification. Such changes, however, are readily taken care of by the exhibitor in that by rotating aperture mechanism to the proper angle, one is enabled to vary the motion at will and thus accommodate all types of films.

Referring now to Figures 6 to 9 inclusive, the aperture mechanism comprises a base plate 50, slotted as indicated at 51 and provided with a lug 52 about which it is adapted to rotate on pivot 53. A pin, 54, slides in slot 55 which is superposed on plate 50.

Plate 50 is provided with a cut-out portion 57 adapted to register with slot 51 at various positions thereof and, due to its shape, to provide a maximum aperture. This is secured as will be noted by making a bottom portion 58 of the slot 57 much wider than the top portion 59, so that the slot 57 tapers from the top to the bottom as shown.

It will be appreciated that the present invention may be applied to existing sound cameras and recording and reproducing systems generally merely by partially rotating the telescope containing the aperture. The present invention is adapted for use in all types of film, including the standard 35 millimeter size, as well as the wider 50 and 75 mm. width.

It is of particular interest in that it can be used on 16 millimeter film so that the recording and reproducing powers of the latter are rendered the full equivalents of the wider films. This can be readily appreciated due to the fact that with the narrower width of sound track area available on a 16 mm. film, the range of sound reproducing and recording is appreciably diminished. By the use of the present invention this effective sound track width is increased up to 40 per cent or greater without requiring any increase in sound track area width and while, at the same time increasing the clarity and effectiveness of the reproduced sound due to the greater amount of light energy permitted to be projected on to the photo-electric cell. A 16 millimeter film having improved sound track according to the concepts of the present invention will thus be equal in sound characteristics to the normal 35 millimeter film having the use of standard sound track.

By varying the speed of the various types of films, substantially uniform results can be secured in sound recording and reproduction with any of the usual types of apparatus now available for the work.

While certain novel features of the invention have been shown and described and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes in the forms and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. In sound recording apparatus an improved aperture mechanism comprising a plate having a central transverse aperture extending across the major portion of the width of the plate, an aperture lug formed at one side of said plate adapted to serve as a pivot therefor and thereby to determine the angular position of the aperture, and a second plate adjustably superposed on said first plate, said second plate being formed with a slanting recess of progressive width adapted to determine the position and extent of the effective aperture in the said first plate.

2. In a sound recording apparatus an improved aperture mechanism comprising two superposed plates, one of said plates having a transverse opening, the other of said plates having an opening diagonally thereof, the plates being adjustably mounted whereby the effective aperture may be varied.

3. In a sound recording apparatus an improved aperture mechanism comprising two superposed plates, one of said plates having a transverse opening and being adapted to be rotated whereby to vary the angular position of the said transverse opening, the other of said plates having an opening diagonally thereof, the plates being adjustably mounted whereby the effective aperture may be varied.

4. In a sound recording apparatus, an improved aperture mechanism comprising two superposed plates, one of said plates having a transverse opening and a lug formed on a marginal edge of the plate, the other of said plates having a channelled opening diagonally thereof, the plates being adjustably mounted whereby the effective aperture may be varied, and means comprising a slot in said second plate parallel to the longitudinal edge thereof, and a pin in said first plate passing through said slot, said pin and slot being adapted to permit longitudinal movement of the second plate with respect to said first plate.

5. In a sound recording apparatus, an improved aperture mechanism comprising two superposed plates, one of said plates having a transverse opening, the other of said plates having an opening diagonally thereof, the plates being adjustably mounted whereby the effective aperture may be laterally varied.

6. In a sound recording apparatus, an improved aperture mechanism comprising two superposed plates, one of said plates having a transverse opening and a lug formed on a marginal edge of the plate, the other of said plates having a channelled opening diagonally thereof, the plates being adjustably mounted whereby the effective aperture may be laterally varied, and means comprising a slot in said second plate parallel to the longitudinal edge thereof, and a pin in said first plate passing through said slot, said pin and slot being adapted to permit longitudinal movement of the second plate with respect to said first plate.

## LIGHT FILTERS

(Continued from Page 36)

improved type of panchromatic emulsion, Eastman Type Two, was introduced by the Kodak Company, followed by the introduction in February, 1931, of super-sensitive panchromatic film. With this new type of film a completely different story of filters is necessary due to the inherently different color sensitivity which the super-sensitive emulsion carries. The remainder of our story, therefore, will deal with the use of filters in conjunction with this type of film.

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# ADVANTAGES OF VARIABLE AREA RECORDING FOR THE INDEPENDENT AND COMMERCIAL LABORATORY

(Contributed)

There has been considerable discussion in variable density laboratory work about gamma, Knee Recording and Straight Line Recording, until the layman who is accustomed to such terms as harsh, soft, contrasty, brilliant and heavy loss, is at a complete loss as to the best method by which to handle sound. The ideal condition is to have the density of the track with no sound imposed on it such that when sound is imposed the light changes above and below this density will be of equal amounts and proportional to the sound volume.

By light change one means, the change of light that will pass through the film from one side to the other, having a constant light on one side and a measuring device on the other.

To the mathematical or technical man these conditions can be explained by the use of the H & D curves and graphic representation of sine waves. But many laboratory men have difficulty in translating the above explanations to the density of film.

If the above condition is not obtained and maintained to at least a certain degree in variable density recording, second harmonic distortion results and produces disagreeable distortion which one frequently hears from a variable density sound track that has been either over or under printed. In the above discussion it is assumed that the developing time is the same for both prints. A

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similar second harmonic distortion will result from over and under developments even when the exposure is correct.

Another type of distortion is also evident. If the density does not double when the sound volume doubles, it may or may not produce a second harmonic distortion. By proper exposure and proper development the above distortion can be reduced to a point which is not noticed by the average listener except in extreme sound changes. Hence the small laboratory man is at a loss to know just how to find the correct points, as to whether his exposure or developer may be at fault.

In variable area recording, quite a different situation exists.

The sound is recorded by varying a constant light on the film, the remainder of the film remaining unexposed and clear white. If the film is under developed the quality of the film is not changed. The part that was exposed and supposed to be black will come out grey. This situation will reduce the volume, as there is less contrast between the black and white, and the volume depends on the variation of light projected through the film. In other words the grey tone lets through some light but its variable edge changes the projected light in accordance with the sound waves imposed upon it, and, therefore, the quality remains the same as it would if the grey was opaque black and the projected light changes were great.

Any laboratory man understanding this principle that contrast gives the greatest volume in variable area recording, can take advantage of this fact to match up recordings made at different levels. In picture work he has found that under exposing and long development gives contrast, hence, on weak recordings when he does the same, he increases their volume. In a like manner if he wishes to reduce the volume of the loud track, he exposes it a little harder with the light and develops it lightly.

The assumption, therefore, is obvious that variable area recording, due to its ease in processing, is ideal for the independent and small laboratory.

## MOTION PICTURE SOUND RECORDING

(Continued from Page 7)

other derogatory features, has condemned this form of recording; although it is still widely employed.

In addition to the actual recording circuit and the equipment necessary for its satisfactory operation, such as the signal system, there has to be an arrangement for maintaining synchronism between the recorded sound and the photographed picture. Likewise, if the quality of sound reproduction is not to suffer, there must be an arrangement in projection that will pull the film through the projector at the same rate of speed at which it was driven in recording.

The motors that drive the picture cameras and the recording machines must start together, run at a certain precise speed, and stop at the same instant. The motors of the projection machines must also run at this certain constant speed. The motor control system is such an important feature of the sound system that a chapter will be devoted to it.

The descriptions in this chapter of the various devices and their functionings have necessarily been rather sketchy because an attempt was made to view the field of sound recording and reproduction as a whole, and yet stress the chief differences in the several recording systems. Succeeding chapters will take up in considerable detail the things outlined here. The next chapter will deal particularly with the recording devices employed by the various systems.

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# Out of Focus



By **OTTO PHOCUS**

## PLEASE EXPLAINING!



The above piece of embroidery was stitched by Itsu Pip in the far Yeast. This department is open to both sides for discussion, but remains neutral in all controversial matters, most of the time.

Many picture had apply for critic in honorable Mag of Internal Photographic and I appreciate submission of special photo, photograph very nicely on slippery paper. Please to be explaining conditions of overcoming any fault of which you finding in my "Scream of Still."

Many problem coming up. Too bad. Viewing from picture closely can see horse needing hair cut very badly. Also not looking very happy in face. Maybe too many pounds on back or maybe not liking of cameraman very much.

Many carry to many lip stick. Stick to hit with when other man giving to much of lip. Man in background balance pumpkin on head. This not very true. Pumpkin is lamp on house with winds blowing. Man holding unhappy horse was loseing of venerable pants. Too bad! Cold weather coming soon make very bad for him.

Can excellent personage telling what time making exposing was taken. Have making 15 exposings and taking many hours. Fourteen exposing very bad and one exposing up above. Exposings start six o'clock very early and finishing six o'clock very late. Very much expensing, thank you!

Hoping you receiving this when in good condition and not cracked I am closing up. Many thankings and happy cheer.

## DO YOU KNOW?

That it looks as if the U. S. C. football team will be all guards this season.

That AL NICKLIN'S Granpap, Brock Higgins, was the first to use artificial and flash lights in this country for photography.

That NEAL HARBERGER once owned a garage and when he has to go into one now it's a case of taking some of his own medicine.

That JIMMIE PALMER owned and operated a theatre in San Diego, but will not go for the basket picnic idea.

That JACK FUQUA, our circulation manager, was

formerly a motion picture operator in Chicago and all points west.

That if you are going East, see ART REEVES. He knows all the wrong roads.

That cameramen should redeem their watches.

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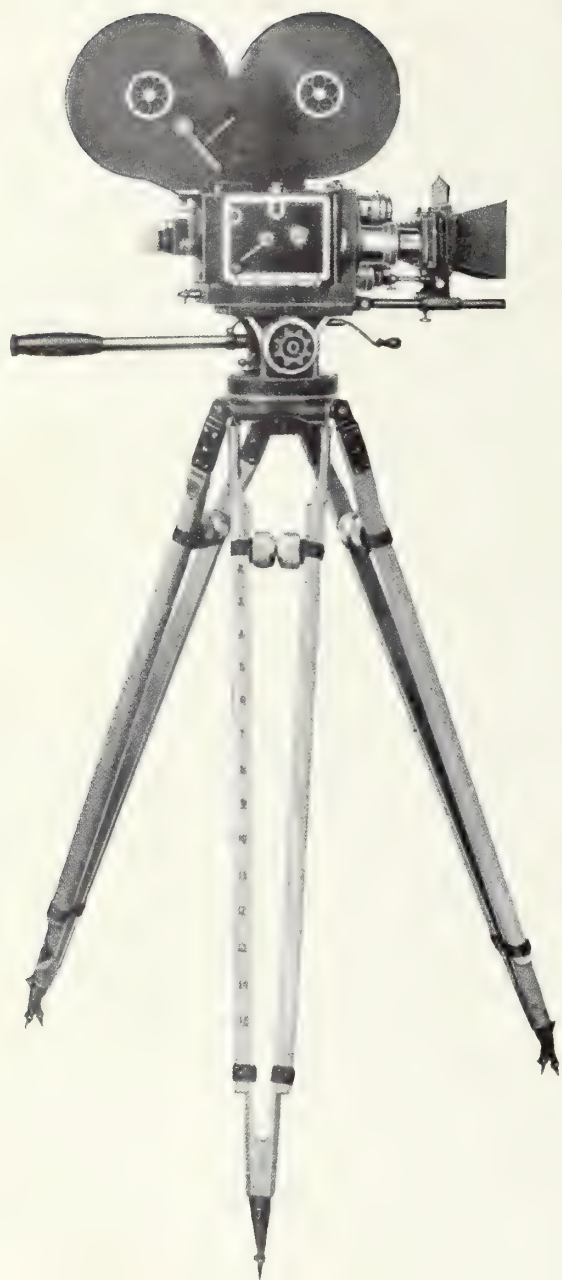
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HOLLYWOOD

FIFTH YEAR

OCTOBER, 1933

VOL. 5  
NO. 9



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MOTION PICTURE ARTS AND CRAFTS

Vol. 5 HOLLYWOOD, CALIFORNIA, OCTOBER, 1933 No. 9

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A Monthly Publication Dedicated to the Advancement of Cinematography in All Its Branches; Professional and Amateur; Photography; Laboratory and Processing, Film Editing, Sound Recording, Projection, Pictorialists.

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Printed in the U. S. A. at Hollywood, California



IN NOVEMBER

Alvin Wyckoff will tell of the behavior of the Leica Camera in the Tropics and his narrative is right fresh off the gridiron, too.

Milton Moore, our expert in color, will answer the question: "What Has Happened to Color?"

Charles Felstead, Associate Editor, will offer his third chapter on "Sound Recording." Don't miss any of these illuminating articles.

Herbert Tynes Cowling tells of his journey—on foot—1600 miles across equatorial Africa, under the title, "Some Tribes of Central Africa." Many interesting pictures.

Shirley Vance Martin writes of "Stills and the Rationale of Still Photography."

Mr. Earl Theisen's offering for November will be "Photography in the World War," one of this fine writer's best articles.

James H. Doolittle is scheduled to tell about a new and interesting tripod he has just invented.

OUR COVER

One of 2000 beautiful stills shot in and around the Fiji Islands and the Island of Papua by J. B. Shackelford for the big R. K. O. picture, "Sea Girl." The scene was Pore-Porena, in Papua on the morning of the photographing of some big scene. Mr. Shackelford is seen at extreme right lining up for the big shots. He shot the still himself. How did he do it?







"THE CITY OF BRASS"

"The City of Brass", one of a series of illustrations for the Arabian Nights, by Fred R. Archer. This beautiful and unusual illustration was made by the combination of three separate negatives. The original was hung at the following international salons: London, Pittsburgh, Madrid, Toronto, San Francisco, Los Angeles—and has been exhibited in many other cities of the world. It is a fair sample of the work of the pictorialists of THE INTERNATIONAL PHOTOGRAPHERS and Mr. Archer takes the occasion to suggest that a salon be held here in Hollywood, probably during the Christmas holidays—a salon of

THE INTERNATIONAL PHOTOGRAPHERS' very own, with the subscribers of this magazine invited to participate as exhibitors. While Mr. Archer is discussing the idea with others of his fellow artists the editors will consider the possibilities of adequate rewards for prize winners.

If the reader is interested and has some original ideas on the subject, why not write or call up Mr. Archer or the magazine and tell about it.



# A SAFE RETURN FROM THE CANNIBAL ISLANDS

And With 40,000 Feet of Film in the Bag

By THE EDITOR

(Illustrated by J. B. Shackelford)



"Shack Is Back"

James B. Shackelford, photographer par excellence, has returned home to Hollywood from a one year and two weeks' sojourn among the savages, the coral islands and the gorgeous scenery of the South Seas.

The official photographer of the Roy Chapman Andrews expedition to the Gobi Desert had long planned to take the trip to the Australasian Archipelago, but it was not until a year ago that he succeeded in opening up a market for the photographic bacon which he expected to bring home with him from his journey to the Antipodes.

In July, 1932, with his friend, George C. Dromgold, well known writer, he sailed for Honolulu en route to Sydney, Australia, headquarters for the expedition. Messrs. Shackelford and Dromgold, in collaboration, had written a story with South Sea locales in which they had interested Merian C. Cooper, of R-K-O, who sponsored the expedition and promised a release.

Melbourne Ward, a young naturalist of the Museum of Sydney, was a guest passenger of the expedition and so assiduous and efficient was he that he soon had the boat overladen with live things of both sea and land, among them eels, 20 foot snakes and other reptiles of various kinds, whose freedom of movement about the ship made Shackelford's visits to his dark room occasions to be dreaded.

It was a two-man expedition. Shackelford was cinematographer, assistant, still man, co-author, sound engineer, lab man, gaffer, grips, wardrobe woman, set designer and builder, shipping clerk, etc., while Dromgold was director, assistant director, script clerk, supervisor, make-up man, etc., but it was a good combination and it clicked merrily.

Shackelford took his own photographic equipment, including a Mitchell camera, Akeley camera, a Bell & Howell Eyemo with motor drive, a Graflex, Circuit Panorama, with full equipment for each, while the studio contributed an R.C.A. portable sound outfit for single or double recording.

Altogether there were 105 trunks and cases of equipment and 40,000 feet of Eastman Super Panchromatic film, the latter packed in accordance with what J. E. Brulatour, Inc., call "Shack's Specifications"—3 rolls to a tin for the 100, 200 and 400 foot rolls, while the 1,000 foot rolls were packed singly. The tins were hermetically sealed and made to open with a turn-key, sardine style.

At Sydney our wanderers completed their outfitting and contracted for the use of a 34-ton pearl lugger, a staunch boat 65 feet long and broad of beam, which they were to pick up at Thursday Island, several days out from Sydney toward their destination—Port Moresby, seat of British New Guinea or Papua.

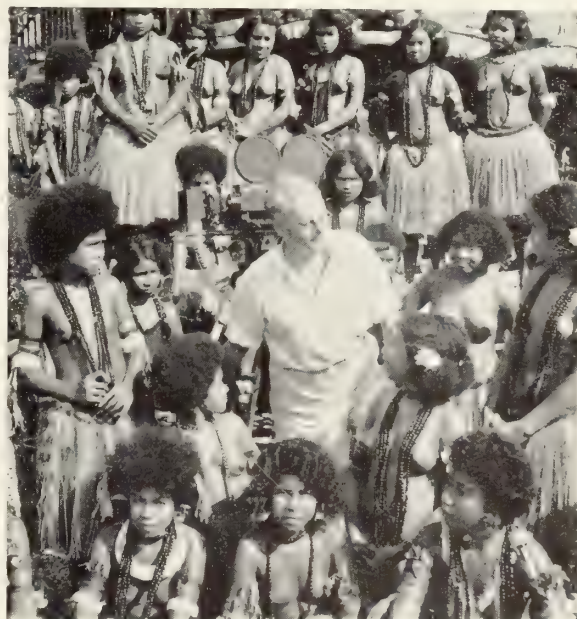
They went by rail to Brisbane and thence took a Chinese ship for Thursday Island, where Shack built a laboratory aboard their boat, installed an ice machine,

wired the boat for electric lights and tried to get acquainted with the nine fuzzy haired natives who comprised the crew.

The captain was a young Englishman named Clay, and a very excellent seaman he was. The seamen looked like the famous Circassian beauties of early circus days with their immense shocks of jet black, wavy hair and, aside from being a bit grouchy by nature, they were not bad to get along with.

The cook was a "reformed" cannibal, skillful at handling the butcher knives in the kitchen, and who seemed to the two white men to be a bit solicitous as to their comfort, for white meat, or "long pig," as it is called, is said to be highly esteemed among the simple hearted cannibal folk of those islands.

For seventy-five years the British and Dutch governments have waged warfare against cannibalism, and it is said they have it whipped with the new generation coming on, but there are always vague rumors afloat, and Shackelford and Dromgold were told that, about the



time of their arrival, a village on the Island of Papua had been raided and five women carried off to form the piece de resistance of a cannibal banquet.

On Papua Island is Port Moresby, an important outpost in those waters, where lives the famous Sir Hubert Murray, for half a century a student of the native peoples and reputed as being the best informed man in the world on matters concerning the primitive folk of Oceania. He is a humanitarian and regards the natives more as children than as intelligent men and women.



By fair and firm treatment he has won their confidence, speaks their languages and dialects, and is regarded by the natives as a great friend and protector.

In the great archipelago there are two main stems of native people—the Melanesians and the Polynesians. The former are blacks with long bushy locks, while the latter are brown and inclined to have straight or short curly hair.

Shackelford and Dromgold arrived in Port Moresby at an inopportune time and they came near finding motion picture shooting taboo. A few months previous to their arrival, a renegade British pot-shooter had arrived on the island for the purpose of photographing native life, but instead he had used the facilities furnished him by the government to raid villages, plunder the natives of their arms and art objects, and at last ran out with a ship load of spoils. He was run down and captured, but his visit to the island had the effect of causing the government to ban all future picture productions except simple scenes of native life. Feature picture plays with story continuity will no more be permitted.

Our adventurers had the good fortune to win the goodwill of the local government and they spent five months cruising about the waters adjacent to Port Moresby, shooting as they desired, and covering a distance of over 1,000 miles in their pursuit of the elusive motion picture.

They were permitted to use 700 natives and 125 war canoes in their big shots, but there were no scenes of violence permitted. The natives were willing and enthusiastic in their efforts to co-operate, but the best Shackelford could do was to give 90 per cent of his production time to rehearsals and 10 per cent to the actual shooting.

Sometimes he would have three cameras lined up on a shot from three different parallels set up in the water two or three hundred feet from shore and nobody to look after them except himself. Things like these, together with the necessity of continually battling the terrific humidity and rust, made life anything but joyous. In no time the film became as wet as sop and, as the fog was invisible most of the time, it was a gamble to take a shot.

Another drawback was the necessity of constantly using interpreters. Usually they were reliable, but when they did misinterpret everything went haywire.

In combatting the humidity Shackelford was forced constantly to use his special dehydrator, charged with chloride of lime, and after two to five days of this treatment the film was soldered in airtight tins and sent to the lab in Hollywood. Sometimes it would require only two months to reach the lab and sometimes as long as five months, according to their luck in making boat connections. Shackelford handled every foot of his film personally, and all of the 40,000 feet exposed arrived at the lab in good order.

The white man in Oceania has many enemies beside savages—in fact, the so-called savage is not much of a menace any more, save when the white man deliberately seeks him out in the seclusion of his greatest isolation and either does him harm through violence, debauchery or plunder.

There are several brands of fever to combat, the dreaded tropical ulcer, leaches, reptiles, poisonous insects, sharks, eels of the coral reefs, fierce as tigers; 30-foot snakes, terrible rays, big as a ship's sails; octopi, poisoned bamboo darts concealed in the jungle paths—all these and many more.

The Fiji Islanders are pretty good people. Their present chief is a graduate of Oxford University and they are advanced in their arts and crafts. They are a

good looking race of people and most willing to co-operate with the white man.

At Suva, their capital, there is a large colony of English people, and here may be found the Fiji at his best. The town itself is up-to-date in everything, and there is no native problem.

In Papua, where Shackelford and Dromgold spent most of their time in production work, the natives along the British coast were fairly civilized, whatever that means, but in the interior and along the Dutch coast they were poison. They were at best a surly lot, but they were willing to work in pictures at the smallest possible stipend.

Small sticks of tobacco, rice, tinned goods of any kind, razor blades and cubes of ice constituted the popular medium of exchange and there was never any quarrel about the price or quality of the stuff given in payment; and right here should be chronicled a wonderful discovery by Mr. Shackelford, viz., that Papua is the place to get rid of old safety razor blades. He said it was simply marvelous what a native Papuan could do with a razor blade. He used them for everything except to make dug-outs, and will undoubtedly do that when the blades get more plentiful, so if the reader has a razor blade problem on his hands, he may have it solved by sending his blades postage prepaid to Messrs. Shackelford and Dromgold, R-K-O Studios.

In answer to a question as to the scenery down there in the world's greatest archipelago he said that, without exception, those islands afforded the most marvelous backgrounds for pictures to be found in all the world.

There are atolls, coral reefs, active volcanoes, high mountains, wonderful wooded islands, lagoons, rivers, unimaginably beautiful cloud forms, stormy skies, amazing panoramas of beach and shore, enchanting marine views with picturesque shipping, indescribable flowers, like the rarest orchids, which are so common that they are trodden underfoot in the wood paths.

The natives find living easy no matter if they have been deprived of their "long pig." The waters teem with all sorts of marine life—scores of species of fish, crustaceans, shell fish (there are clams weighing 2,000 pounds) oysters galore and last but not least, a holy terror to man and fish—the terrible death dealing eels of the coral reefs as aforementioned.

The woods are full of wild fruits, nuts, edible roots, etc., while vegetables of many kinds are raised in the vales and on the hill slopes. If a man own a bread fruit tree, a coconut tree or two, a patch of bamboo and a tiny outrigger boat, he is sitting on top of the world, according to Mr. Shackelford.

The bamboos furnish him with a house, beds, rugs, baskets and a hundred other things, while the coco palm gives him fruit, the finest salad and hair oil on earth, sails, dishes, clothing, milk and no end of other things.

Their artists, architects and craftsmen are wonderful workmen with their home made tools, their designs in basketry, rugs, mats, etc., being refreshingly original and beautifully executed. Time means nothing to these children of the sea and jungle, and their art works are painstakingly excellent.

The rains in Oceania are terrific. Mr. Shackelford reported 100 inches—eight feet and four inches of the wet stuff—in four and a half months.

There is no danger of exhausting the charms of Oceania, according to our globe trotting picture pursuers. This archipelago paradise is bigger than any continent and the more it is photographed the more its beauties and charms are disclosed, and if the motion pictures are still alive a century from now Oceania will still be offering up its unmatched enchantments.

The materials for motion picture making are profuse



and widely scattered in Oceania—nothing is lacking. This part of the earth's surface has ages back of it—fragments of the old continent of Lemuria and at least a few of its relics, such as those of Easter Island.

There are five hundred years of the traditions of the early world navigators back of its water lanes and the decades of conquest and discovery which followed—unsurpassed in nautical history for adventure, romance and great drama.

In this far flung theatre of strange and wonderful life appeared in their proper sequence the Spanish and Portuguese navigators and discoverers; Capt. Cook; the early Dutch settlers; the British conquerors of the East and pioneers of Australia and New Zealand. Here flourished the buccaners of the Indian Ocean (the fliers of the Jolly Roger) and the dreaded Stranglers of the Cord and Krees (Kris). Here the pearl fisheries, the thousands of shipwrecks, the treasure troves of the days of conquest, the sea fights of those days, the romance of the building of a new British empire, the Thousand and One Nights of a new Island world.

Here are the watery paths which lead to that mysterious realm called Antarctica and everywhere are the strange and interesting child peoples in their enchanting island homes.

It is a good place to be, this amazing world of land and water, for the white man is a lover of good places and he is here in great numbers. Those who visit in Oceania long to return to it and they do say that a man can live better and more economically there.

It has been aforesaid that Shackelford and Dromgold went to Papua with a script story and a lot of ingenuity had to be brought to bear upon the situation. At last the problem was settled by an agreement to shoot all the long shots with Papuan natives and all the close-ups with Fiji islanders—this was because the government refused to permit the Papuans to work with weapons, while the Fijis could do as they liked.

At the Fiji Islands, therefore, our expedition hired Leuria, a small private island, uninhabited and everything, and here, for five and a half months, they toiled to finish the picture begun at Papua. Here they were frequent guests of the Fiji chief, Ratu Pope Seniloa, grandson of the last cannibal king of Fiji and a graduate of Oxford, a gentleman every inch, to hear Shackelford and Dromgold tell it.

According to Mr. Shackelford, it won't be long now until under water photography has reached a development that will make it easy to pick up the secrets of marine life at the present time deemed impossible, and he adds that the under-sea flora, fauna and sentient life of Oceania is unparalleled in the world—and when the time comes the motion picture industry will enter upon a golden era heretofore unimaginable in the wildest flights of cinematic fancy. There will be action pictures



This beautiful extra girl was one of the leaders of the chorus in "Sea Girl." Note the Persian rug pattern of her tattooing. Among these natives the story of their lives is told in tattoo.

under the sea with all its background of mystery and enchantment—a new world will have been added to the realm of cinematography.

May it come and quickly. The movies need a stimulus like that.

After completing their production work at Papua our expedition headed for home via Samarai Island, Suva and Sydney, completing the round trip of 25,000 miles in twelve months and two weeks.

"The Great Barrier Reef of Australia," a monumental work by the English scientist W. Saville-Kent, F.L.S.; F.Z.S.; F.I.Inst., bears out Shackelford's statement about the wonderful marine world visited by the expedition.

That coral reef, one of the marvels of the universe, is 1,250 miles long and varies from 12 to 600 miles in width—an unimaginable riot of color, like a scrambled rainbow, and untold millions of shapes in coral, mineral, vegetable and marine life.

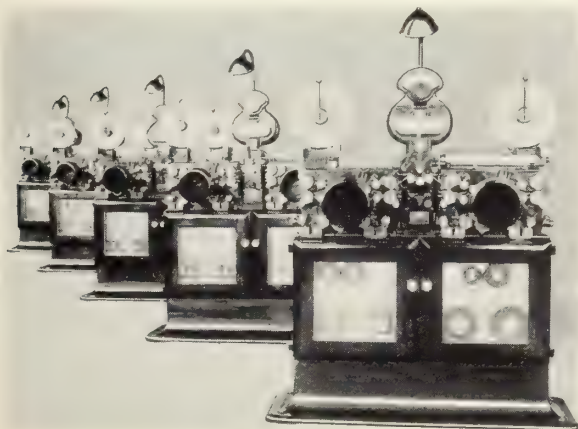
When you are told that on that reef clams three to fourteen feet in diameter open their wide mouths as gigantic traps to snare their food, and capable of killing a man, you are still in the realm of fact. Imagine going into a Sydney cafe and ordering a dozen clams on the half shell!

This reef has given up untold millions in pearls and pearl shell, and our Mr. Shackelford will tell you that he has located a "pearl harbor" for himself and that some day he's going back to get his share. Funny! They all want to go back!

The title of the Shackelford-Dromgold picture is "Sea Girl," featuring Joel McCrea. The associate producer is Shirley Burden.

## BEGINNING OF A NEW MOTION PICTURE ERA

A battery of Bell & Howell automatic sound and picture production printers is now being installed by M-G-M at Culver City, California. These printers represent the finest development in this highly important field. Sound-wave and picture records are printed simultaneously, and, due to full sensitometric control and other important factors, the resulting prints give better tone effects and better and clearer pictures than has heretofore been possible. This printer is said to close the gap which has existed between high quality recording and reproduction.







# THE STORY OF BELL & HOWELL

By EARL THEISEN

Honorary Curator  
Motion Pictures  
L. A. Museum

Before 1900, every man who was technically minded and who had a vacant horse-stall out in the barn where the car garage later sprang up, hoped to construct the perfect device for making pictures move. Every mechanic, every photographer, while building his workshop dreamed of the motion picture. Perhaps he had seen moving pictures or perhaps he had only heard of them. It made no difference.

Joseph Dubray was one of the many hundreds during this time who became enamored of the idea of moving pictures. He had seen them and he had admired the then scientific toy. With a knowledge of photography he set out to make his own motion picture equipment. He reasoned out the underlying principle of movement on the screen and with this knowledge he made a "taking device."

For an intermittent, he made a device which consisted of a pair of grabbers that jerked the film forward; for film, he bought kodak roll film in short lengths which he slit down the center. Sufficient of these short lengths were then cemented together to make 18 feet of film. With this he laid a foundation in the motion picture that with the passing years has made him one of the more notable engineers of the industry.

Don Bell was another who started to experiment with moving pictures during their earlier formative years. He is retired now, but he has left mechanical contributions that will always remain as a monument to him.

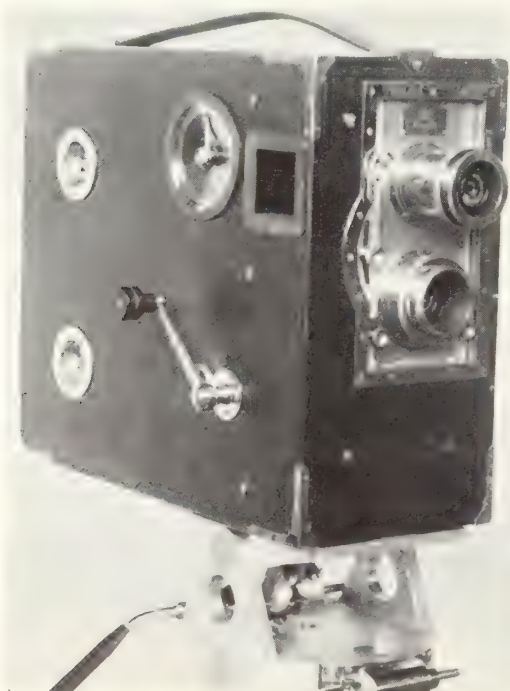
His first job in the motion picture was in the spring of 1897 when he was a projector operator for George K. Spoor. That was before F. H. Richardson, the "projectionists' friend, brought his refining hand to bear upon the then lowly "operator."

Too, that was before the time of motor driven projectors; then one of the main requirements of a projectionist was a strong right crank arm. A discerning audience could tell the mood of the operator by the speed of the characters on the screen. If everything were all right with him, the characters were the same, but if he were in a short temper or anxious to get home to his family, then the screen showed an amazing exhibition of action and speed. The characters would scamper about jerkily on the screen with astonishing rapidity.

At this time Don Bell was an operator of the Magniscope, in the Schiller Theatre on Randolph Street, Chicago. The Magniscope was made by Edward H.



J. H. McNabb, President,  
Bell & Howell Company



The first Box Model Bell & Howell made late in 1907.

Amet. In the fall of this same year he remodeled one of the MacMillen Optigraphs which were sold by Sears, Roebuck & Company and the result was the forerunner of the Kinedrome projector. He says: "My efforts at construction were very crude, though I had fine projection results." His first engagement with the remodeled Optigraph was at the Beaver Dam County Fair, in Wisconsin. He exhibited at night on the lawn in front of the Public Library. This opening, because of its success, led to a long run at the Great Northern Theatre, in Chicago.

After two years, in the winter of 1899-1900, he made his model of the Kinedrome, in Syracuse, New York. This model was used chiefly by George K. Spoor in his film rental business. This was during the time when a show-house was usually in a vacant store or perhaps a tent and the owner aspiring to a new business would rent films, projector and an operator from the "film renter," the equivalent of today's exchange. Of course there were more affluent persons who actually owned or had made their own equipment. It was several years before the first theatre was built especially for the movie. Since



there were no projector booths the operator usually set up his projector amid the audience.

In the spring of 1905, Don Bell was still associated with George K. Spoor, who was supplying films to many amusement enterprises around the corner, among them the dignified Orpheum Theatre Circuit, which had the lowly films as a filler between the vaudeville acts. With Ben Turpin for his chief actor, Spoor was making his own slap-stick stuff. He called them "pictures." His "movies" were made in the vicinity of No. 62 North Clarke Street, in Chicago, where he maintained a producing studio. That was the beginning of the later Essanay.

From there Don Bell would take his projectors and equipment to various mechanical shops in the vicinity for repairs and alterations. One day, in this same spring of 1905, he went into the Crary Machine Shops, a small concern with space rented on the fourth floor of the Streeter Building, on Illinois Street, near the Chicago River. They did jobbing machine work. Bell had decided to "refine" his Kinedrome. It needed it; the thing was composed of brass plates and other improvisations instead of castings.

At the Crary Shop, Albert S. Howell was employed as a mechanic and designer. "At the suggestion of Mr. Crary," says Don Bell, "I employed Mr. Howell to



Joseph Dubray, a Motion Picture Man since 1898

'refine' my machine and put the design in manufacturing shape. His work disclosed extraordinary talent." At this time Howell conceived the Rotating Cam framing device, which he patented and assigned to Bell. This was in August, 1906.

This improved framer was first used on the Kinedrome. It has since come into almost universal use. That and other innovations made the Kinedrome a desired piece of apparatus for the showman. F. H. Richardson says it was the first truly professional projector, which means something when it is understood this projector was the only one among a multitude.

Mr. Bell had met Mr. Howell. Bell & Howell was the outgrowth. They were incorporated in 1907. For the first year or two about half of their work was outside mechanical jobbing. However, their attention was directed toward the motion picture. Printers, perforators, many cameras and other picture equipment used in this country were made abroad. Bell & Howell, being jobbers, got much of this apparatus to repair or to



Albert Summers Howell and Don J. Bell with one of the Standard B & H Cameras

re-service, such as sharpening dies for perforators, motorizing a hand-driven printer, and as Mr. Howell recalls, "they added a few knick-knacks on cameras for special trick effects." Most of this work was done for the newly formed Essanay who had purchased a full line of laboratory apparatus from England. The first big B & H job was for 50 Kinedromes for Spoor's rapidly expanding film rental business.

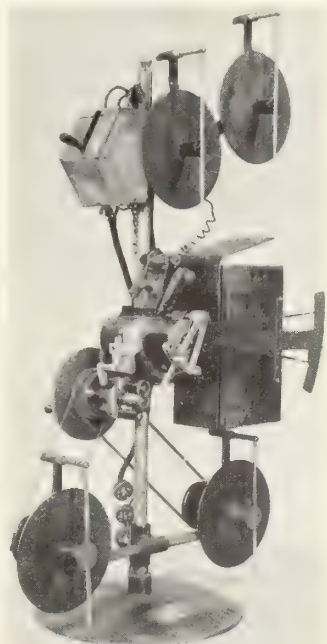
Realizing the imperfections of the conventional picture equipment the inventive Howell set about to make, first, a perforator which, with improvements and with the passing years a few alterations, now perforates practically all of the world's motion picture film. The next Bell & Howell contribution to standard cinematography was their Box Model Camera. It was made late in 1907 and the first one sold to Essanay. Their first continuous printer was made the next year.

They were launched! Shortly they became identified with the standard type of precision motion picture apparatus. Comparing this 1908 and 1909 apparatus with the present it was primitive, but then, so was the motion picture!

In the meantime, Joseph Dubray, who was to become the manager of standard sales and service of Bell & Howell, in 1909, had become a cameraman with Pathe in France. He had, as I have noted, made his own movie equipment as a hobby. That was in 1898. During the daytime, he was a photographer with his father; at night and during spare moments he was a cinematographer. That continued until 1906 when he connected with Pathe. He had been a traveling photographer doing the hardest kind of photography—photographing paintings in museums, to be used for post cards.

Dubray carried his complete dark room equipment with him and set it up in his hotel room near the running water of the wash basin, that is if he had a wash basin. Since panchromatic negative plates could not be had then he used the yellow sensitive orthochromatic

(Turn to Page 24)



The Bell & Howell Printer of 1911





# ON THE TRAIL OF PIRATE'S GOLD WITH AN UNDERSEA CAMERA

## Octopus vs. Shark

By ESSELLE PARICHY

Let us  
meander in  
the gloaming, down  
the pirate trails of  
the Antillean Seas with  
brave buccos who loved the  
roaming . . . who gave no quarter  
and expected none, under the Mosaic law  
and rosary of pain . . . whenever the Black Flag  
and Cross Bones hovered near . . . . .

Down the old sea trails, whispering memories of swashbuckling pirates lured me to the coral shores of the Caribbees. From out the yellowing pages of old manuscripts come tales of Captain Kidd, Morgan, Blackbeard and others to cast a spell of adventure over our present day dreams. Turbulent among the bucco-rovers were these brethren of the Seven Seas, each writing a separate law in the log of Satan's nautical victories.

All the island below the Tropic of Cancer were once written in pirate tradition; all of the bocas from Florida to Venezuela over the face of the Caribbean were once the breeding places of the Lawless Law, a seminary of wine-swilling, bass-belching cutthroats, who without the honor that is said to be prevalent even among thieves, ran the sand on their brethren and Christian foe, gave no quarter and asked for none. These were the fiery days of the survival of the wickedest, when guns and guttural war cries echoed like voices from Hell.

Burning galleons and sacking cities along the Spanish Indies in the unappeasable lust for riches was like letting loose all the fires of human wickedness that burned without any warmth in their paralyzed and calloused souls.

Capt. Henry Morgan stands pre-eminent among all the picturesque sea wolves. Some of his bold exploits were stupendous and unbelievable as in the lurid glamour of his famous hunger march to sack Panama . . . in burning Panama, this fer-de-lance eclipsed all achievements of his piratical rivals. It is reputed that this city was plucked clean of every grain of gold to the tune of over one and one-half million dollars.

Bold were these pirates in their infamous trade, and all of the same kidney, yet through some of their calloused hearts ran a strain of romance, as in the legend of that unregenerate buccaneer, Capt. Avery who soon tired of the exploits along the Caribbean and took up his trade in the oriental seas, where he captured the beautiful Princess Patma, daughter of the Grand Mogul of Ind'a.

This illustrious princess was on a pilgrimage to Holy Mecca and accoutered to meet the occasion. Her ship was blown with silken sails . . . a ship laden with caskets of jewels and royal raiment so resplendent in dazzling perfection that it was even beyond the wildest apprehension of Avery so steeped in the mire of plunder. Yet with all this wealth to be sold by handful for the satiation of his carousal yearnings, he died of starvation in an obscure English village.

Another famous character of this time was Blackbeard and as picturesque as any pirate that rode the Spanish Main. He was a connoisseur of trimmings and always looked like a bird of paradise in his gilded shirt, red kerchief and shiny boots, emblazoned with the feathers of tropical birds, while the rarest of jewels taken from

plundered galleons accentuated his ill-kept hands.

There are many legends of swashbuckling pirates . . . of Francois Lalonois, of Bartholomew Roberts, of Edward Teach and others who left tarnished memories and flaming episodes and out of all this phantasmagoria of lust and slaughter, a legacy of romance and gold hunger was left to lure the daring and stir the red corpuscles of adventure-loving Man. But these lawless scoundrels who lived in luxury and elegance out of pilfering New Hispaniola bordering the tropical seas, were all destroyed by the passion and lust they, themselves, created.

In the subterranean depths along the isles of the West Indies lies the natural graveyard of old Spanish galleons and pirate treasure.

Two huge cannon of the old muzzle-loading type were recently brought up from the bottom of the sea. They date back about 1670, of piratical warfare along the Spanish Main. No one knows what bold pirate captain gave the salute that sent them to this graveyard of ships . . . it may have been Morgan or Blackbeard, or yet Teach that sent these cannon to Davy Jones' locker. No doubt the heavy fire of these cannon roared forth a fragmentary salute that rent the calm Caribbean evening as pirate ship and Spanish galleon moved into action, only to sink with the corpse of the ship.

Could it have been bold-faced Capt. Easterling or Scarfield who cried through the tearing of timber and



Mr. Parichy photographs a pirate Big Bertha recently recovered from a wreck in the Caribbean.

grinding of plank: "At 'em, men; git me that homing Spaniard, for she is loaded with gold! At 'em, buccos and leave not a man alive! Quick, before the devils sink, and up with the sparkles and gold!" . . .

It was probably during the wildest of slaughter that brave caballeros jumped the sinking ship . . . better the sharks than the devilish torture of pirate formula, that gave no quarter in mercy.



Now these hoary cannon, after 250 years of coral crusting and water decay, come to the surface; illuminating mementoes of an incandescent past.

Treasure hunting with a camera is a thrilling adventure, especially when it takes you into the depths of the sea.

I have built an undersea camera box to hold an automatic Eyemo without the turret head. It is constructed of heavy plate iron, one quarter inch thick, ten inches high, nine inches wide and seven inches in depth, all outside measurements and it weighs about 45 pounds loaded.

The box is absolutely water and moisture proof up to a six hour test under twenty feet of water and it has proved quite successful in the tropical waters of the West Indies. It is compact, easy to handle and operate, giving approximately 55 feet of exposed 35 mm. negative on one winding. The exposure under sea is made by pressing the finger through a rubber compartment in the back of the camera box that releases the exposure lever attached to a weighted gadget on the inside.

After each rundown of the camerawinding spring the box is brought to the surface, opened and rewound and ready for another descent and undersea exposure.

I was inclined to overexpose underwater. My first few hundred feet certainly got it on the film. With the high sensitiveness of panchromatic gray-back it is surprising what this emulsion will pull into the camera in these brilliantly lighted waters. Image and perspective stand out in good quality as if molded in glass, giving an appearance of unreality in the projected picture.

It was a perfect day for photography as down, down I descended with the camera box and sinking weights, ten, twenty, thirty feet below to a huge coral ledge in the translucent depths of the tropical sea.

In the deep recesses wierd shapes of marine formation moved in phantom-like patterns about me. It was the most eye-filling fairyland of subterranean life I had ever seen, blazing with coruscating colors everywhere. In the formations, huge citadel like pinnacles of coral rose out of trailing sea growth and giant fairy-like fronds, presenting a forest of fantastic underworld beauty.

Here in this Neptune's Paradise I watched with widened eyes the waving, scintillating walls of this coral forest, alert to the multitude of danger that lurked in the purple crags, ever moving, ever changing with a suddenness surprising in the unseen current of the moving tide.

Here amid all the sparkling splendor the grotesque denizens of the deep guard and give brusque challenge to anything foreign in their under water domain. Well does the man-eating shark, octopus, barracuda and slimy moray guard the rotted hulls and water-soaked cache that have lain in incandescent decay in the bottom of the sea over century-old pirate gold. Well do they guard from human hands this legacy of raw riches buried in the shifting sands.

There was a ghostly feeling about this place, like things watching . . . unseen things like phantoms returning to their lockers of gold. I had a feeling of wierd unreality, also a sense of fear gripped me as a monster shadow filtered above me and as this shape was revealed to me without warning, other forms moved in the coral walls near by. An enormous grayish form swept by in a rush of movement, disappearing and reappearing, swiftly sending a swirl of current around me that almost lifted me off my feet . . . the hair on my cranium curled with sheer fright as I realized this was a man-eating shark, so moving backward and retracing my steps I signaled to be pulled up and be quick about it. Meanwhile out of the fresh colors bathing the coral formation buoyed a slow creeping creature . . . a menacing ugly moving hump that watched the shark, which now was alert to the eerie sense of danger close at hand



A mangrove swamp, favorite terrain for the burial of pirate gold. Photographed by Parichy.

and was threshing the water about him in a maddening frenzy.

Between the octopus and the shark exists a deadly hatred, savage, cannibalistic, utterly crazed.

Calm and unhurried the octopus moved through the water inspecting the shark who dashed madly to and fro, snapping at nothing in the fury of impending battle and ever fighting for position like a gladiatorial opponent to attack this deadly enemy.

In a fraction of a split second something happened . . . something more rapid than the mind could conceive . . . more vivid than the eye could see, when a terrific swirl of tangled shapes churned the peaceful water. The octopus had struck full force upon the shark and swiftly wrapped his life-crushing tentacles around his prey, weighing them both down with gyrating rolls and gripping force.

It was an eye-filling spectacle . . . death rode the waves of this mad struggle for the shark was doomed; never could he unshackle or destroy these ever-gripping tentacles tightening about him. The slimy reptilian arms of the octopus coiled with sinuous cunning, ever crushing, ever gripping in infernal deviltry. The razor-edged teeth of the shark sheered off one of the arms . . . it sank to the bottom swiftly . . . a cloud of jet black ink outspread the water from the octopus, blotting out the vision and spasmodic thrills of horror played in the diabolical drama.

The fight became indistinct as the mad eruption of inky water encircled the surface of the sea . . . even the brilliant stabbing rays of the sunlight could not penetrate the cloudy battleground where the vicious duo engaged in mortal combat.

I had had enough of these devils of the deep and breathed a sigh of relief to be out of the subterranean battleground where pirate gold can lay for centuries to come (as far as I am concerned) guarded by terrorizing monsters who are ever enemies of Man.

### VALENTINE RETURNS

Joe Valentine has returned from the Eastern Service Studios, Long Island City, where he photographed "Take a Chance" for Schwab, Rowland and Brice for Paramount, directed by Monte Brice. Buddy Rogers, James Dunn and Cliff Edwards were featured. Frank Serjack, stills; Patricia Donohue, script.



# MOTION PICTURE SOUND RECORDING

## Chapter II

By CHARLES FELSTEAD, *Associate Editor*



The first chapter of this series surveyed sound recording and reproduction as a whole and stressed the differences existing between the several recording systems. This chapter will be devoted to discussing those differences in greater detail. But first the steps in a recording system through which the electrical equivalent of the sound has to pass, from the time the sound is picked up by the microphone until it is recorded on the sensitive medium, will be considered briefly.

The alternate rarefactions and compressions that are produced in the atmosphere by a sound-pressure wave cause the diaphragm of the microphone to vibrate at a frequency that corresponds to the frequency of the sound vibrations. The amplitude of this movement of the diaphragm is governed by the amplitude of the sound vibrations. The higher pitched and louder a sound, the more rapid and greater the movement of the diaphragm.

In the case of a condenser microphone, the diaphragm forms one plate of a two-plate condenser that is connected in the input (grid-filament) circuit of a vacuum tube. The vibratory movement of the metal diaphragm varies the capacity of this condenser in accordance with the sound vibrations; and that capacity variation causes a minute alternating potential (voltage) to be produced between the grid and filament of the vacuum tube. This alternating potential is amplified by the tube, which with its associated apparatus is termed the condenser microphone amplifier.

From the condenser microphone amplifier, the potential is fed by a transmission line to the volume controls in the monitor room, or booth, where the electrical level (equivalent to volume of sound) is controlled by the monitor man. Then, after amplification by a booster amplifier at that point, it is transmitted to the main amplifier room. There, this alternating speech potential is enormously increased by suitable voltage and power-amplifiers.

When the speech potential (or, more properly, speech current) has been boosted to the proper "level" by the main audio-frequency amplifiers, it is fed to the recording machines in the recording room and inscribed on film or wax. This rather involved path is traversed almost instantaneously; for the speech voltage travels at the speed of light.

An idea of the electrical circuit may be obtained from the simplified block-schematic diagram of a direct recording channel in Figure 1. In this form of diagram, squares represent apparatus, such as amplifiers, and single lines depict the pair of wires that form the transmission lines connecting the apparatus.

### *The Western Electric Recording Devices*

Slightly different circuits are employed in the Western Electric system for recording on film and wax, as shown

in Figure 2. Attenuators are connected between the power amplifiers and the recording devices in both circuits to reduce the speech current level to the proper value for recording. These attenuators are T-type resistive networks, and they are variable in fixed steps, thus providing the recording engineer with control over the input to the individual recorders.

A repeat coil (transformer) is necessary in the light-valve circuit to match the impedance of the attenuator to the impedance of the light valve; for impedances must be matched at each junction point throughout the recording circuit, just as dominoes are matched in a line, if a maximum transfer of energy with minimum distortion is desired. Impedance is that characteristic of an electrical circuit or apparatus that opposes the flow of an alternating current; and it is analogous to the effect of resistance on direct current.

In the wax recording circuit, the alternating speech current produces mechanical motion in the electro-magnetic disc recorder. This causes the cutting stylus to move from side to side as the recorder travels over the wax, engraving a wavy groove in the soft wax record. The depth of the groove is maintained constant by the advance ball, which is attached to the recorder and rides lightly on the surface of the wax.

In the film recording circuit, the speech current causes the spacing between the adjacent sides of a loop of wire ribbon, which forms the vibrating element of the light valve, to increase and decrease. This variation in the spacing of the sides of the light valve ribbon loop permits more or less light from a constant light source to shine between the ribbons onto the moving film. The name light valve was derived from the functioning of this device as a variable aperture in controlling the amount of light reaching the film.

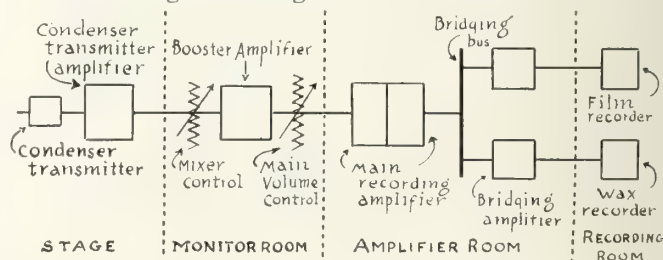


Figure 1. Direct Recording Channel

No more will be said about the Western Electric recording devices at this time because they will be described in considerable detail in the chapter on recording.

### *The RCA Photophone Vibrator*

The recording device of the RCA Photophone is known as a vibrator, or "rocking mirror." This device modulates a constant light source by reflecting a portion

of the light through a fixed aperture onto a moving strip of motion picture film.

The vibrator consists of a U-shaped loop of ribbon stretched over two ivory bridges that are spaced  $7/16$ ths of an inch apart. The ribbon is one-half a mil thick and five mils wide. A mil, incidentally, is one-thousandth of an inch. A tiny glass mirror is cemented to the loop of ribbon at a point midway between the bridges. The ends of the ribbon loop are connected to two posts; and there is a space of ten mils between the ribbons.

A miniature ivory pulley held by a spring in the closed end of the loop keeps the ribbons under tension; but an adjustment screw attached to the spring allows the tension to be varied. A permanent magnet is mounted so that the ribbons of the vibrator lie across the plane of the magnetic flux. The terminals of the ribbon are connected through a repeat coil to the output of the recording amplifiers.

When speech current from the amplifiers flows through the ribbon of the loop, it produces a magnetic field about the two sides of the loop that either aids or opposes the magnetic flux of the permanent magnet, depending on the direction of flow of the alternating speech current at that instant. This field about the ribbon tends to cause the sides of the loop to move in opposite directions in the permanent magnetic field. Since the loop is fastened at both ends, the result is that it rotates slightly, thereby twisting the mirror to one side or the other.

The speech current is an alternating current, as has been explained, whose frequency is the result of the complex frequency components of the sounds picked up by the microphone. On one-half of the alternating current cycle, the mirror is turned one way by the slight twisting of the ribbons; and on the other half of the cycle, the twisting of the ribbons causes the mirror to turn the other way.

In this manner, when an alternating current is passed through the ribbon of the loop, the mirror is caused to vibrate about a vertical axis in synchronism with the frequency of the alternating current. Because the ribbon is fastened, the mirror can turn only so far in each direction. When no current is flowing through the loop, the magnetic flux of the permanent magnet has no effect on the ribbon and the tension on it holds the mirror in an intermediate position of rest.

This tension on the ribbon is made great enough by means of the tension adjusting screw to raise the natural period of vibration of the loop (the frequency at which it vibrates most readily) well above the normal recording frequency range. The frequency of this tuning is in the

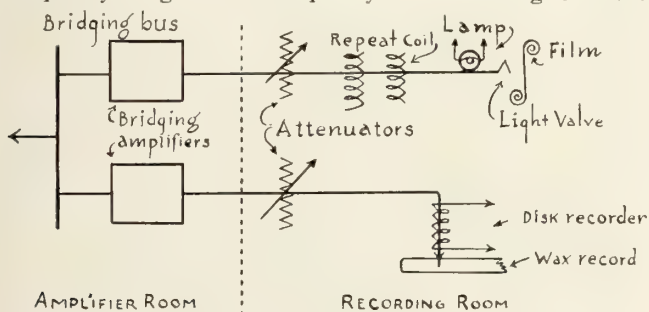


Figure 2 Film and Wax Recording Circuits

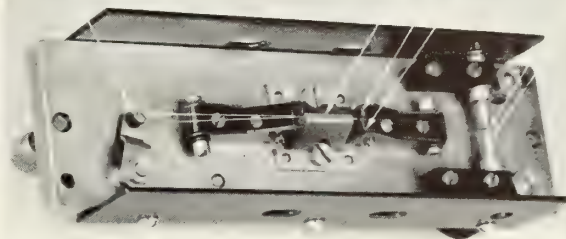
proximity of 6,000 cycles. The vibrator is immersed in clear mineral oil to aid in reducing its response at the resonant frequency.

#### The Light Source and Optical Slit

The constant light source that is focused by a lens system onto the mirror of the vibrator is provided by a gas-filled concentrated-filament lamp that receives its current from batteries. A portion of the light that is re-

flected by the mirror passes through a slit 280 mils long and three mils wide cut in a metal disc, then through another lens system that focuses the image of the slit on the moving film.

When one speech current is flowing through the ribbon loop and the mirror is in a position of rest, the light image on the film (reduced one-fourth by the lens sys-



The light valve, or variable aperture of the Western Electric Recording System. AA are the windlasses securing the ends of the ribbon; B is the idler pulley that places tension on the ribbon; CC are the pineers, or jaws, which adjust the normal spacing of the ribbon; D is the pole piece slit through which the light passes. (Illustration courtesy of the E.R.P.I.)

tem) is thirty-five mils long and three-quarters of a mil wide. In this condition, the light beam covers just one-half of the full sound track width; so only that half of the sound track is exposed.

As the mirror vibrates, or rocks, about its axis under the influence of an alternating speech current applied to the ribbon loop, the width of the exposure on the film increases and decreases in proportion to the movement. The higher the amplitude of the speech current (produced by louder sounds), the greater the arc of the mirror swing; while the higher the frequency of the current (produced by shriller sounds), the faster the oscillation of the mirror.

Since the film is moving vertically through the recorder at a constant speed of ninety feet a minute, the vibrations of the mirror result in a jagged, "saw-tooth" area of exposure on the sound track. High values of speech current produce saw teeth that extend almost across the full width of the sound track. The points of the saw teeth are closer together for high-frequency (high-pitched) sounds than for low-frequency sounds.

The fact that portions of the sound track are either completely exposed or wholly unexposed—and there are no intermediate degrees of exposure—is the reason why this is known as the constant-density but variable-area type of sound track.

#### The Fox Movietone Aeolight

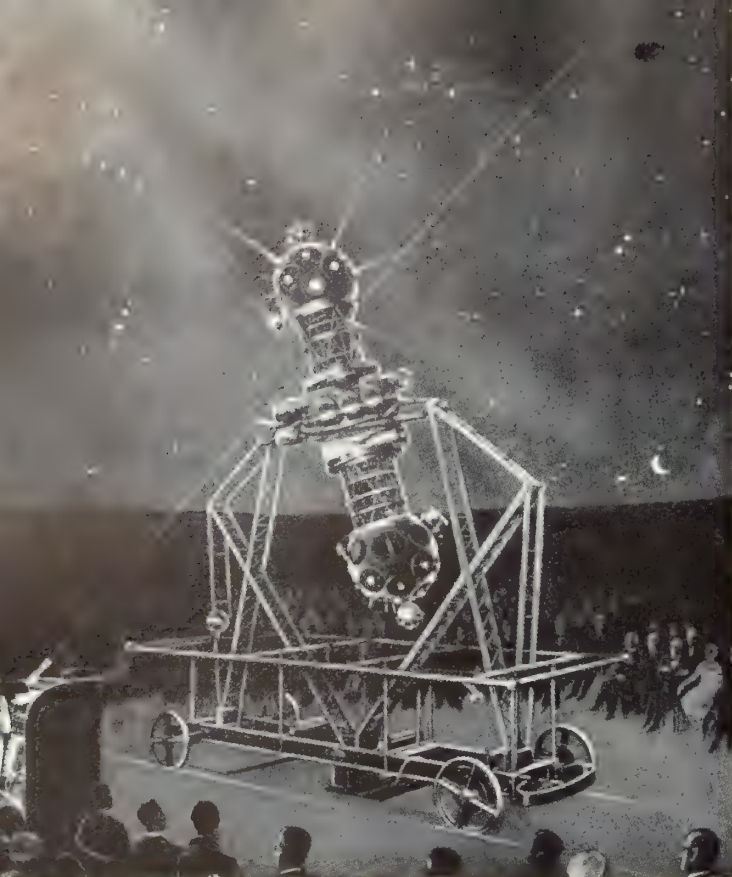
The Movietone system employs as its recording device a small light of varying intensity known as the Aeolight. The word *Aeo* was coined by the inventor of the light, Mr. Theodore W. Case, from the fact that the filament of the light is coated with certain alkaline earth oxides. It is a gaseous discharge tube; and its illumination varies to a greater or lesser value above a certain fixed intensity, as dictated by the amplitude of the speech current impressed upon it.

A steady direct current from a battery flows through the lamp at all times when it is in operation; and the alternating speech current is superimposed upon that steady value of current. That causes the illumination of the lamp to vary in sympathy with variations in the impressed speech current, because the speech current component adds more or less to the value of the steady d-c. current.

In other words, when speech current flows through it, the intensity of illumination of the lamp varies directly with the amplitude of the speech current; but it is always above the normal brilliancy prescribed by the

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Interior of the Hollywood Planetarium showing the Carl Zeiss projection instrument in action during a lecture. The only other Planetariums in America are in Philadelphia and Chicago.

The Zeiss Planetarium which will be housed in the attractive building now rising on a shoulder of Mount Hollywood, in Griffith Park, is nearing completion at the Carl Zeiss Works, Jena, Germany, and will be ready for installation by the time the building is completed.

A description of this marvelous optical instrument is furnished to *THE INTERNATIONAL PHOTOGRAPHER* by Mr. William Hartman, West Coast General Manager of the Carl Zeiss organization, who has expert knowledge of the Zeiss Planetarium, since the first instrument was fabricated in Jena, Germany, the home of the Carl Zeiss organization.

#### *The Instrument Itself*

Mechanically, the projector is one of the scientific marvels of our time. It resembles in appearance a gigantic dumbbell with spherical heads and a thick handle, supported on spiderlike steel legs some twelve feet from the floor, and weighs almost four thousand pounds.

The spheres at each end of the instrument contain electric lights which project star images through one hundred nineteen small lenses which are arranged on the shell of the spheres. Each lens shows a section of sky so that altogether the whole heavens are depicted, more than fifty-four hundred stars being shown—many more than can be seen with the naked eye even on a clear night.

A special series of small projectors at the extreme ends of the instrument project the Milky Way—many small stars almost too numerous to count.

The handle of the dumbbell, a cylindrical structure of steel rods resembling in miniature the basket masts of a modern battleship, contains a series of small lenses which project the planets. Here, in the course of construction, a peculiar mechanical problem had to be solved. It was necessary that the planet projectors occupy the dumbbell handle, and it was also essential that, as they moved, these projectors should not be obscured by passing behind the steel framework of the instrument. A solution was found by arranging these projectors in pairs,

# THE HOLLYWOOD PLANETARIUM

## The Inside of It

By WILLIAM HARTMAN

[Since this story went to the printer, Mr. Hartman informs the editor that the planetarium instrument has arrived in Los Angeles all ready for installation when the building now arising on Mt. Hollywood is ready.—Editor's Note.]

two for each planet, like the tubes of a binocular field glass, with both lenses focused on the same spot. Then, as the planet projectors revolved, the lenses pass behind the steel support one at a time and there is always a planet image properly projected on the dome.

Since all the heavenly bodies move in their orbits at varying speeds, it was necessary that the Zeiss Planetarium be made to show all of these movements in their proper relation to each other, both as to speed and time. This has been accomplished by means of numerous gears, eccentrics and cog mechanisms designed with the utmost mathematical precision and driven by several tiny electric motors. And by a rotation of the dumbbell, motion of the sky as a whole is obtained, while at the same time the sun, moon, stars and planets all pursue their own courses within the heavens.

#### *A Visit to a Zeiss Planetarium*

Let us, in imagination, pay a visit to the Zeiss Planetarium and witness its operation.

We enter the great dome room—which is about one hundred feet in diameter and more than half as high—and seat ourselves in chairs arranged in circles around the projection apparatus. The lights are turned off and the great dome made pitch dark.

We are required to sit in the intense darkness for a few moments in order to rest our eyes so that we may be able to see stars as faint as the 6.2 magnitude, which is equivalent to seeing a lighted candle five miles away.

Presently we notice that there is a faint glow along the horizon which surrounds us. Suddenly the sun rises

#### THE ASSISTANTS TALK IT OVER



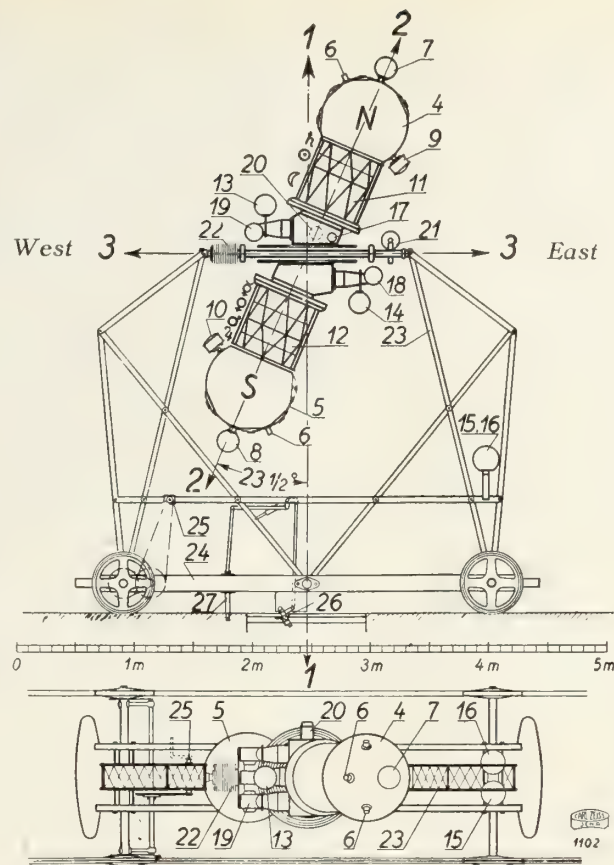
"Do you like filet mignon?"

"No, I like Elissa Landi better."

in the east and passes overhead to set in the west, then the moon is discovered in the heavens, its crescent glistening with an ashen glow. The moon gradually sets, and the planets become visible. Mars, Jupiter and Saturn rise in the east, glide majestically across the heavens, and approach the western horizon where they disappear one after another. Looking to the east again we behold Venus as a morning star rising in its brilliant beauty; then up comes ruddy Mercury, followed shortly by the sun of another day. Thus, in a period of only four and one-half minutes we have witnessed the heavenly movements of a day twenty-four hours long. As we watch, this short active astronomical day and night is repeated for us several times and the glorious privilege is given us of seeing these things with the eye of the Infinite.

In order that we may easily comprehend the astonishing movements of the planets in their relation to each other, the day period is speeded up until it lasts but a fraction of a second. A year is passed in seven seconds. The sun and moon flash across the heavens as streaks of light, while the planets perform their amazing intricate movements in the heavens above us. Mars, Jupiter and Saturn, in certain parts of their orbits, have a backward movement due to the speeding effect of our own earth overtaking and passing these planets, and they seem to loop the loop numerous times.

Now the sun, moon and planets are again slowed down to a four and one-half minute day. Then without warning the entire firmament, including the glorious Milky Way, is switched on, and the dim recesses above us are studded with familiar stars and constellations, while here and there a planet stands forth. We of the audience are not prepared for this beautiful and most realistic representation of the whole starry heavens; an involuntary "Ah," is heard



The longitudinal section of the Carl Zeiss projector in Hollywood Planetarium.

In the upper part of the figure a side view, from the south, is presented; in the lower part the plan view.

- 1—Polar axis, perpendicular to the terrestrial equator.
- 2—2—Axis of the ecliptic, perpendicular to the plane of the Earth's orbit.
- 3—3—Axis for varying the geographical latitude. All of the projection apparatus of the star carrier and the planetary frame may be rotated at will about this axis, so that the aspect of the heavens as seen from any point on the Earth's surface can be exhibited. The intersection point of the three axes, 1, 2, 3, is placed in the center of the dome and precisely 3 meters above the floors.
- 4, 5—32 projectors, distributed over two star carriers, for the representation of 5400 stars, from magnitudes 1 to 6.2 of the northern and southern sky (N and S).
- 6—18 projectors for nebulae, star clusters, and the brightest star, Sirius.
- 7, 8—32 projectors for constellation names and the circle described by the pole in consequence of the gyroscopic motion of the Earth.
- 9, 10—2 projectors for the Milky Way.
- 11—10 projectors and the mechanisms for the Sun in its halo, the Moon, Saturn and the Zodiacal Light.
- 12, 8—Projectors and the mechanisms for Mercury, Venus, Mars and Jupiter.
- 13, 14—12 projectors for the central line of the Zodiac (ecliptic) and the celestial equator, the north and south polar points.
- 15, 16—4 projectors for noon-day (meridian) line.
- 17—1 projector for reading the scale of years.
- 18—2 motors for the diurnal motion, a day in 1, 2, 3 or 4 minutes.
- 19—3 motors for the annual motion, a year in 7.3 seconds, 1, 3, 4 or 7 minutes.
- 20—1 motor for the gyroscopic motion of the Earth, 26,000 years in 4 minutes.
- 21—1 motor for the rotation about the axis (3-3) variation of geographical latitude, one rotation in 7 minutes.
- 22—The electric wires from the fixed frame to the movable part.
- 23—The fixed frame, or pedestal.
- 24—The carriage for moving the entire instrument along a track.
- 25—Gear to drive the carriage with the aid of a crank.
- 26—Common conduit for all the electric wires.
- 27—Bolt to fasten the carriage to the floor in the position in which the instrument is to be used.

throughout the room as we all gaze spellbound. The illusion of the immensity of space is perfect, and it is almost impossible that we are not actually looking into the starry heavens on a clear night out-of-doors. This dome above us is completely forgotten and the illusion of unlimited heavenly space is perfect. As we look at this artificial sky it appears to possess the deep blue of a real night sky, yet there is no color on the dome and none in the projection apparatus. This blue appearance of the dome sky is an interesting phenomenon which has no scientific explanation; even the veteran scientists of the Zeiss Optical Works cannot find a reason for it. Perhaps the blue color exists only in the imagination of the audience and the illusion is due to the fact that the whole presentation is so realistic that, while we do not actually see a blue sky, we feel that it must exist.

Meanwhile, as the Planetarium demonstration proceeds, a lecturer standing beside the switchboard which controls the instrument, has been talking. He has explained briefly and simply what the heavenly occurrences are, their relation to each other, and their bearing upon the every day affairs of men. The lectures, of course, vary, being always designed to meet the requirements of the audience. School children are taught the fascinating essentials of astronomy. Subjects of timely interest are discussed in a popular manner for adult audiences. A forthcoming eclipse and its causes may be explained, with all the information necessary to enable the auditors to see the happening to best advantage when it occurs. Or the presence of a new comet may be discussed.

Thus an optical device built in the twentieth century, in the light of knowledge accumulated through thousands of years, explains to us in a few moments facts that astronomers spent centuries in learning.





# PROFESSIONALS AND AMATEURS IN JAPAN

By HARRY A. MIMURA

Two kinds of people own amateur cameras—16 mm. or 9 mm.—one kind is the ordinary camera lover who has plenty of money and time to spare. The intentions of this class are just to keep adding to their photographic records of scenarios or daily happenings, such as shooting animals and babies in action.

They ordinarily possess the best kind of equipment, but pay less attention to the products they make as long as they see something on the tiny width of film and in this they are satisfied. They do not feel very bad if the picture is too dark or the face of the baby is too white on account of over-exposed film—they are just plain amateurs.

The other kind is quite different and they are seldom satisfied in their own work. With some exceptions they usually come from the class of people who save their money to get the cheapest camera available and add a few attachments by themselves.

Their constructive thoughts and skillful hands sometimes far surpass professional. They are very enthusiastic students of photoplay as well as photography and their study continues constantly year after year. Some of them are only high school boys and girls, some belong to college cinema societies, others are clerks in offices, etc.

In addition to the professional ideas secured through careful study of many domestic and foreign pictures, they put their own ideas into their little celluloids. To my knowledge these people make more artistic and successful pictures than the second class professionals because they give free rein to creative mind while the latter are apt to stick too close to the original stories or director's ideas, etc.

Several magazines in Japan are devoted exclusively to the amateurs, but we find none for the professionals. One of the outstanding organizations of these people is the Japan Amateur Cinema Association, founded in 1931 by the amalgamation of several important groups which had led the amateur cinema movement in the past. The association owns and operates "Amateur Cinema," a monthly magazine.

A year ago the American Society of Cinematographers conducted a world wide amateur cinema contest. Among a few hundred scenarios submitted from the far corners of the earth, Japan submitted a small number of reels.

A little fellow of seventeen years of age, Okamoto, by name, won the honor of second prize on one of his two pictures submitted. Though a prize was not awarded, his second picture was highly praised by the judges as the best in artistic photography. The J. A. C. A. takes pride in numbering among its members many others like Okamoto, throughout Japan.

The use of 16 mm. pictures is wide-spread in the country, contributing as they do to educational, military, industrial, medical and other activities. Wherever there are popular gatherings and lectures—the small picture maker follows to illustrate them and the future development of this field is beyond our imagination.

The professional cameramen in Japan, more than 300 in number, are busily devoted to their work daily. I should say that 95 percent are on permanent jobs in various studios. Compared to the amateurs, the professionals are rather handicapped in their working conditions. The

major studios are rapidly improving their equipment, but they still are away behind those in California.

Since the advent of sound pictures they naturally had to change some of their equipment and now they are slowly catching up to Hollywood. Besides the many unfavorable production situations in the studios, the paramount one, in most cases, has to do with the brains of so called "dumb" producers. If you happen to see any of the Japanese pictures you will notice the dead white faces of the actors and actresses on the screen.

In a recent visit to my home country I brought this subject up to a group of cameramen in a certain large studio and it developed that the lack of make-up was not the cameramen's fault and they all said: "That's the way the producers want it—if the faces are not photographed white—well, it's just too bad."

Those producers sit in a theatre and view foreign made pictures and find many remarkable shots. "That's the kind of shots we want," they quate. Then a Japanese cameraman sets up and shoots a picture at nearly the same angle, using similar lighting, and what the same producer says after seeing rushes is "NUTS."

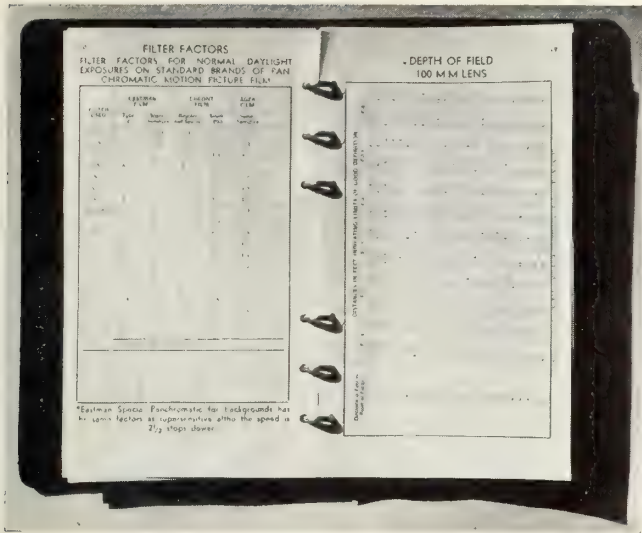
In most cases in Japan a director and his cameraman are the editors of the picture, so that they may know more about cutting films, etc. I know of a cameraman who goes to the theatre to view foreign pictures, not to be entertained, but to study the mechanics of the pictures. He takes two assistants along, one of whom has a stop watch. From the beginning of the picture they measure every scene by the watch, count the number of scenes, close-ups, long shots, etc., and they come home with the record with a score of sheets of paper, and this becomes the good text book of "how a picture should be edited." Some people call them crazy, but they claim it helps them a lot.



One-eighth of a sound stage built in Japan in seven days.

Owing to the poor financial conditions, Japan took up the talkie venture slowly, but its demands are gradually increasing and the major studios are now producing one out of five on their program. Recent statistics show 113 home made talkies were produced between January and June, this year. And it won't be long now before all the assistant directors on the set will be barking:

"Skizukani—Shite—Kudasai! Talkie wo totte imasu-kara." Meaning, "Quiet please! We are making a talkie now."



This is the sixth installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's BOOK of TABLES

By FRED WESTERBERG

There are several more installments to come, concluding with the January issue, 1934, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 15; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 15 and 16. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index unless others are added.

27

## CAMERA IDENTIFICATION MARKS

### 16 m m. FILM

IDENTIFYING MARKS MADE ON EDGE OF FILM BY VARIOUS  
MAKES OF CAMERAS AT THE TIME OF EXPOSURE

EMULSION DOWN		PICTURE ERECT

32

## DEVELOPER FORMULAS

### FINE GRAIN NEGATIVE DEVELOPERS

EASTMAN BORAX FORMULA NO. D-76	
ELON	2 Grams
SODIUM SULPHITE (Anhydrous)	100 "
HYDROQUINONE	5 "
BORAX	2 "
WATER	1 Liter
TEMPERATURE	65° F.

- Directions For Mixing
1. Dissolve about one-quarter of the Sulphite in hot water (about 160° F.), followed by the Hydroquinone.
  2. Dissolve the Elon separately in a few ounces of warm (not hot) water.
  3. Mix the two solutions.
  4. Dissolve separately the rest of the Sulphite in hot water and add the Borax.
  5. Mix with the first solution and dilute with cold water to make up the required amount.

DUPONT BORAX FORMULA	
RHODOL	2.5 Grams
SODIUM SULPHITE (Anhydrous)	75.0 "
HYDROQUINONE	3.0 "
BORAX	5.0 "
WATER	1 Liter
TEMPERATURE	65° F.

AGFA NO. 12 FORMULA	
METOL	8.0 Grams
SODIUM SULPHITE (Anhydrous)	125.0 "
SODIUM CARBONATE (Anhydrous)	5.75 "
POTASSIUM BROMIDE	2.5 "
WATER	1 Liter
TEMPERATURE	65° F.

NOTE—Grams per Liter=Ounces per 30 Quarts=Pounds per 120 Gallons.



# MAGNACOLOR GOES TO THE YELLOWSTONE

Joseph Aller, of Consolidated Laboratories, and party of three have returned from the Yellowstone National Park and vicinity where they went to make the first of a series of scenics in Magnicolor, a new color system in process of development by Mr. Aller, himself.

Over 3,000 feet of Dupont By-Pack negative was used and reports from the lab are to the effect that the preview gave evidence of perfect registration of color and in all respects exceptionally sharp.

Several of the outstanding scenes were photographed late in the afternoon, around four o'clock to six. These scenes were tests, to determine just what results might be expected, because of the long light shadows and the slowness of the light at this time of day. The experiment proved surprisingly successful in every detail, which, according to Mr. Aller proves that Magnicolor can be exposed under all conditions.

Other tests were made on days with clouded skies, while still another scene was exposed in the rain, during the time Old Faithful geyser was sending on high many millions of gallons of water. These scenes will be used in the production.

As one observes this picture in process of being unreeled on the screen, the observer will be impressed with

the huge white clouds that adorn the skies and which act as a diaphragm against the rays of the sun dampening the brightness of the light necessary for the exposures required in color photography.

Another impressive scene was taken at the foot of Yellowstone Falls where in its spray the gorgeous arched rainbow is clearly seen as it reveals its beautiful color spectrum.

With Mr. Aller was Eddie Morrissey, one time director for the Biograph Company, who acted as historian; Percy Higgensen, laboratory technician who made all the tests for detail, exposure and other technical requirements.

The cameras were in charge of chief cinematographer George J. Lancaster, who turned in a perfect negative as before mentioned. Mr. Lancaster brought back also many beautiful stills.

Announcement of release will be made in the very near future. In the meantime Mr. Aller is to be congratulated upon the satisfactory behavior of Magnicolor under trying circumstances.

## THE TROPICAL FILM COMPANY

This company has been organized to promote and exploit motion pictures of a tropical type made by associates of this company.

There are no employees and no officers and the business will be conducted on a co-operative basis, each person receiving an equal and equitable share of the net profits. More about this in November.

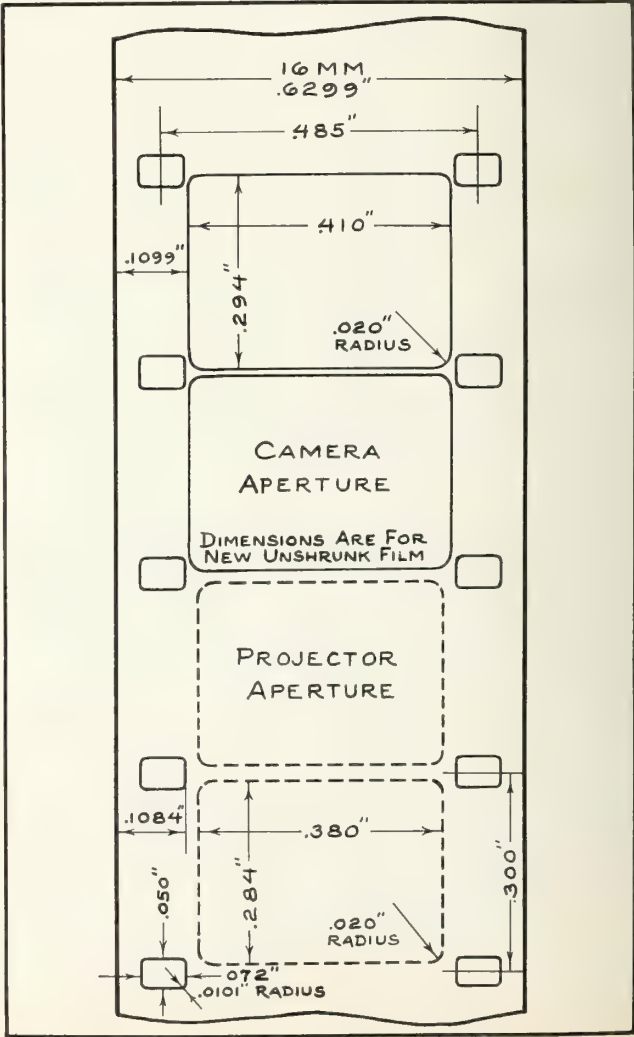
## WEIGHTS AND MEASURES CONVERSION TABLES

Grams Per Liter to Grains Per Quart		Grains Per Quart to Grams Per Liter		Ounces Per Quart to Grams Per Liter	
Grams Per Liter	Grains Per Quart	Grains Per Quart	Grams Per Liter	Ounces Per Quart	Grams Per Liter
1.0	15	1.0	.07	$\frac{1}{16}$ or .06	1.88
1.5	22	5.0	.34	$\frac{2}{16}$ " .13	3.75
2.0	29	10.0	.68	$\frac{3}{16}$ " .19	5.63
2.5	37	15.0	1.03	$\frac{4}{16}$ " .25	7.50
3.0	44	20.0	1.37	$\frac{5}{16}$ " .31	9.38
3.5	51	25.0	1.71	$\frac{6}{16}$ " .38	11.3
4.0	58	30.0	2.05	$\frac{7}{16}$ " .44	13.1
4.5	66	35.0	2.40	$\frac{8}{16}$ " .50	15.0
5.0	73	40.0	2.74	$\frac{9}{16}$ " .56	16.9
6.0	88	45.0	3.08	$\frac{10}{16}$ " .63	18.8
7.0	102	50.0	3.42	$\frac{11}{16}$ " .69	20.6
8.0	117	60.0	4.11	$\frac{12}{16}$ " .75	22.5
9.0	131	70.0	4.80	$\frac{13}{16}$ " .81	24.4
10.0	146	80.0	5.48	$\frac{14}{16}$ " .88	26.3
20.0	293	90.0	6.16	$\frac{15}{16}$ " .94	28.1
30.0	438	100.0	6.85	$\frac{16}{16}$ " 1.00	30.0

Grams Per Liter to Ounces Per Quart		Grains Per Quart to Ounces Per Quart		Ounces Per Quart to Grains Per Quart	
Grams Per Liter	Ounces Per Quart	Grains Per Quart	Ounces Per Quart	Ounces Per Quart	Grains Per Quart
1.0	.033	1.0	.002	$\frac{1}{16}$ or .06	27
1.5	.050	5.0	.011	$\frac{2}{16}$ " .13	55
2.0	.067	10.0	.023	$\frac{3}{16}$ " .19	76
2.5	.083	15.0	.034	$\frac{4}{16}$ " .25	110
3.0	.100	20.0	.046	$\frac{5}{16}$ " .31	137
3.5	.117	25.0	.057	$\frac{6}{16}$ " .38	164
4.0	.133	30.0	.068	$\frac{7}{16}$ " .44	191
4.5	.150	35.0	.080	$\frac{8}{16}$ " .50	220
5.0	.167	40.0	.092	$\frac{9}{16}$ " .56	247
6.0	.200	45.0	.103	$\frac{10}{16}$ " .63	274
7.0	.233	50.0	.114	$\frac{11}{16}$ " .69	301
8.0	.267	60.0	.137	$\frac{12}{16}$ " .75	329
9.0	.300	70.0	.160	$\frac{13}{16}$ " .81	356
10.0	.333	80.0	.183	$\frac{14}{16}$ " .88	384
20.0	.666	90.0	.206	$\frac{15}{16}$ " .94	410
30.0	1.000	100.0	.228	$\frac{16}{16}$ " 1.00	438

If larger quantities are desired move decimal points to right the same number of places in both columns.

## APERTURE SPECIFICATIONS STANDARD 16 m m. FILM



# **EASTMAN**

## **SUPERSENSITIVE**

## **PANCHROMATIC**

## **NEGATIVE**

...having reached a point of achievement where it is now preferred and used exclusively by the outstanding directors of photography, there is but little left for us to say except to again point out the additional value of

# **BRULATOUR SERVICE**

and the cooperation of

**EASTMAN KODAK RESEARCH**  
**AND TECHNICAL SERVICE**

**J. E. BRULATOUR, INC.**

**New York**

**Chicago**

**Hollywood**





# LIGHT FILTERS

## FROM THE CINEMATOGRAPHERS VIEW POINT

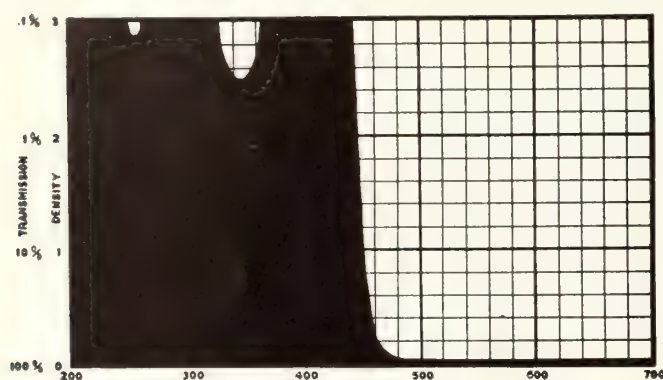
By EMERY HUSE and NED VAN BUREN\*

A Series—Part IV—Filter Factors

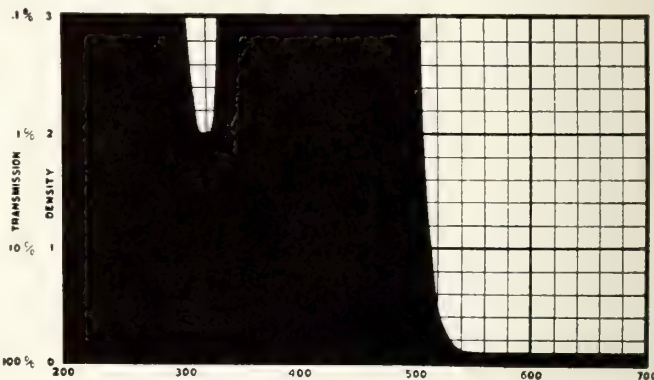


With the introduction of super-sensitive negative film with its different type of color sensitizing it was necessary to make a study of the use of filters with this emulsion. The authors instigated some practical research to determine the filters most applicable to produce finer photographic results with this film. The filters listed in the

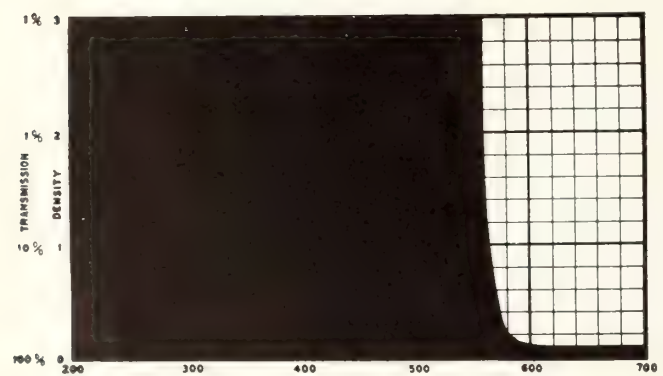
1.25 for super-sensitive film to daylight quality of illumination. Due to the fact that it absorbs such a small amount of the visible spectrum to which the photographic emulsion is sensitive, it is only used where a small amount of correction is desired. Because of the exposure latitude of the super-sensitive emulsion it can be used quite success-



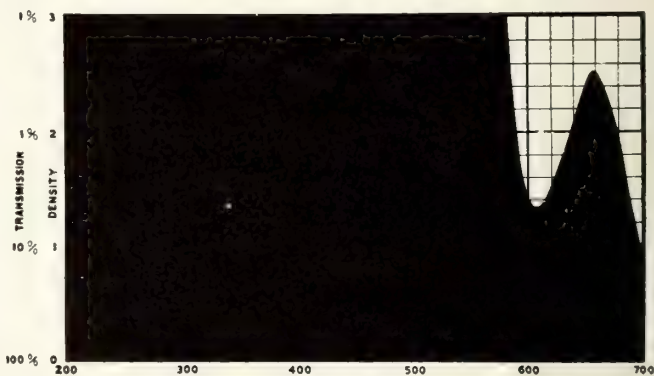
No. 3. Aero No. 1



No. 15. G



No. 23A. E Red (light)



No. 72.  $\gamma$

filter factor table cover those which are most useful. Experience has shown that there are only seven filters which one actually needs of this group. Any other filters, while probably useful, may be considered more or less in terms of excess baggage. The filters referred to as fulfilling the requirements for super-sensitive film for daylight photography are the Wratten Aero 1, Aero 2, 3N5, 5N5, G, 23A, and the 72. Each of these filters will be discussed in brief detail.

### Aero 1

This filter is very light yellow in color and its spectrophotometric curve, given in Figure 8, shows almost complete absorption up to wave length 440 millimicrons, thus transmitting most of the visible spectrum. The slight transmissions at wave lengths approximating 260 and 330 millimicrons are not very effective and can for most photographic purposes be ignored. This filter has a factor of

\*West Coast Division, Motion Picture Film Department, Eastman Kodak Co.

fully at the same aperture and under the same conditions as the "no filter" exposure.

### Aero 2

This filter is light yellow in color and has a filter factor of 1.5. Its spectrophotometric curve shows quite complete absorption to a wave length of approximately 480 millimicrons, thereby absorbing appreciably more blue-violet than the Aero 1. This filter is quite adequate for general all around exterior photography. It produces no effect upon normal panchromatic makeup and need not be considered detrimental from this standpoint. Due to its blue-violet absorption it naturally produces in the print a somewhat darker sky, thus enhancing the general picture quality.

### 3N5—5N5

These two filters are respectively the Aero 1 and Aero 2 to each of which has been added chemically the neutral density filter dyes of .50 density. These filters were de-

(Turn to Page 28)



# THE NEWSREEL WORLD

Hollywood seems to be coming to Sweden. Hurrah! Maybe this good old magazine, our own INTERNATIONAL PHOTOGRAPHER, can make more work for the cameraman. We newsreelers do not take credit for the several features being produced today with the newsreel man as subject, but I do not for a moment doubt that we have had some effect.

Remember our broadcasts over a national chain from this department? Pronto R-K-O, where those broadcasts originated, got the idea and started on a story about newsreel cameramen. Now I hear Columbia is following suit. Perhaps some kind angel in Hollywood will eventually buy my book: "I Shoot for News," and make a picture of it!

Recently we have had quite a gathering of Hollywoodites over here. Marc Connelly, the playwright, with his charming wife, our former Mack Sennett siren, Madeline Hurlock. Did you photograph her, Johnny Boyle? Another swell and regular fellow was here, too—Louis Bromfield, and don't say you all haven't read his best sellers.

Boy, did I feel "gone Hollywood" when he let me pose with him for a still. He says he may soon be with you fellows out at M.G.M. Bromfield, a young, long, slender sprout that wins one at once, adapted "Dracula" to the screen for Universal, so he's well acquainted with Hollywood sunshine and shadows.

As if it weren't enough to give a square-head a swelled head I got to windward of Pearl Buck, Edna Ferber and a swarm of Swedish favorite authors. I expected to see Garbo any minute. What a strange world! Garbo goes to Hollywood and Hollywood goes home to Sweden. Who's coming here next?

Most all the old favorites have been here at one time or another in the past: Harold Lloyd, Dick Barthelmess, Douglas Fairbanks, Senior, Mary Pickford and many other producers. I often wonder what they all did here



Left to Right—Mrs. Marc Connelly (Madeline Hurlock), Mr. Connelly, Pearl Buck, Louis Bromfield.

that they passed up so many good bets on pictures. There are a lot of fine stories lying around here that would be great in English.

The setting is here for any number of remarkable pictures. Yes, and excellent studios with everything ready

By RAY FERNSTROM



to hire. All anyone would need to come here and go right to work would be money and a cast and TECHNICIANS. Why let the foreign countries get the drop on us? Wake up, Hollywood!

If England and Germany are after our picture scalps because of shooting their English versions in all parts of the world, why not come up here in the Nordic countries and give them a real run for their money? With Europeans taking our technicians and stars to shoot English versions in the actual setting of each story, wouldn't such pictures as Garbo's "Christina" have ADDED charm, have a flavor of NOVELTY, if produced in Sweden, since this is the place Garbo has been TALKING SO MUCH ABOUT?

This country can offer writers fresh plots, settings and dramas that are of the simple, homey type so needed nowadays. Old steamer canals, for instance, hundreds of years old, with generations of families that have tended the locks, bridges, etc. Up in Lappland dwell the last of the race known as Lapps, little nomads that roam the tremendous range covering all of northern Norway, Sweden and Russia, in search of the tender moss their reindeer feed on.

An overnight boat ride from Stockholm, Sweden's capital, carries one to a port called Marieham, Aland. This is the home port of the last of the square riggers. Up to thirteen can be seen at one time anchored or docked here. When they set sail, with young green adventurous lads of sixteen or so climbing the rigging, isn't that a picture idea?

A new picture has been produced here called "Pettersen and Bendel." This is a Swedish idea similar to Jewish-Irish situations found in some of our American films. In this case it deals with a little lovable Hebrew character who forms a partnership with a Swede named Pettersen, in Stockholm. The plot makes a movie that is a lulu and perfect for American adaptation, translation and production. In this case the Swede family trims Bendel, but as he says in his last line: "He is the first person ever to beat me in a business deal, but how I love that BIG SWEDE." Is this a story for pictures or not?

Had some negatives developed out at FILMCITY in Rasunda the other day. What a beautiful place they have! Imagine building a movie studio in a garden! And the lab is as modern as any we have in our home town. Yes, machine developing, too. Bob Olson, head of the lab, took me through the place. For anyone who might want to come over and make pictures, everything in the form of equipment is here.

They use those new Super-Parvo cameras and have dollies of all kinds. You can even get a CAMERA CRANE ON A TUGBOAT if you wish. If I am not mistaken, this has not yet been used even in Hollywood before. Swedes are fine mechanics and production costs are cheap, too. Boy, if I had the dough I'd make a picture here from my own story and call it: "Including the Scandinavian." So long—see you soon.



# EXTREMELY FINE GRAIN

...THAT, of course, is the first essential in any film that is to serve satisfactorily for projection background shots. Eastman Background Negative has this prime requisite ...*plus* adequate speed...*plus* excellent processing characteristics. In short, it is being demonstrated every day that this new Eastman film is ideally adapted to its important special purpose. Eastman Kodak Company. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

## EASTMAN

### BACKGROUND NEGATIVE

## NEW CAMERA FOR M. P. STILL WORK

A camera for motion picture still work has been evolved by Fred R. Archer, internationally known pictorialist and salon worker, and well known in the West Coast studios for his photographic work extending over many years.

The camera is really a combination of types now in general use, to which has been added a lens turret, a finder and focal plane shutter—the latter two for action work where necessary.

The turret is added to save time in changing from long shots to close-ups in a profession which calls for great speed as well as accuracy and as the still man's range is from distant scenes to close portraits within a few seconds, the time saving of this device can readily be seen.

The turret unit consists of a cast aluminum front board with extension to hold the turret in a position in which it will clear the camera front so as not to interfere with the rising and lowering camera front; the turret pan, which is fastened to this front board, and the face plate which holds the lens and revolves to let them come into place.

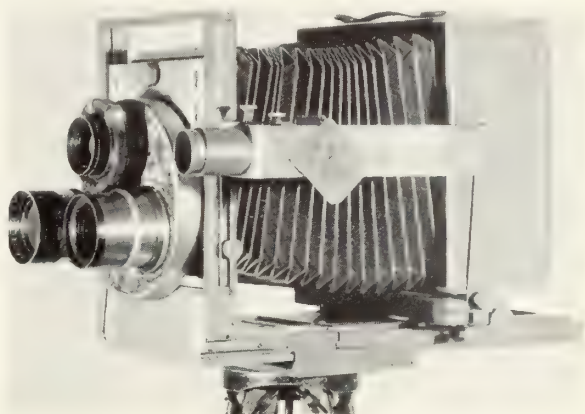
The face plate is set on to the pan with a two-step lip around the edge for a light trap, turning is controlled by a spring button lock and the plate revolves around a center bolt with spring tension to hold plate against pan.

The turret has three lenses, one of 12 inch focal length, one of 16 inches and one of 19¾ inches. The 12 inch, being the most used lens for exteriors, is mounted in a compound shutter.

There is behind the lens a silent shutter which is mounted inside the front bellows rame, controlled by a bulb for work on the set, for portraiture and general interior work.

For action work a motion picture camera type finder is mounted on a bracket opposite the lens center. This

bracket extends out to let the rear of the finder clear the back of the camera when short bellows extension is being used. For action work an 8 by 10 focal plane shutter is mounted on the back of the camera. This shutter and finder are left off for general work, to lighten the outfit. Finder mats give area included in different lens angles.

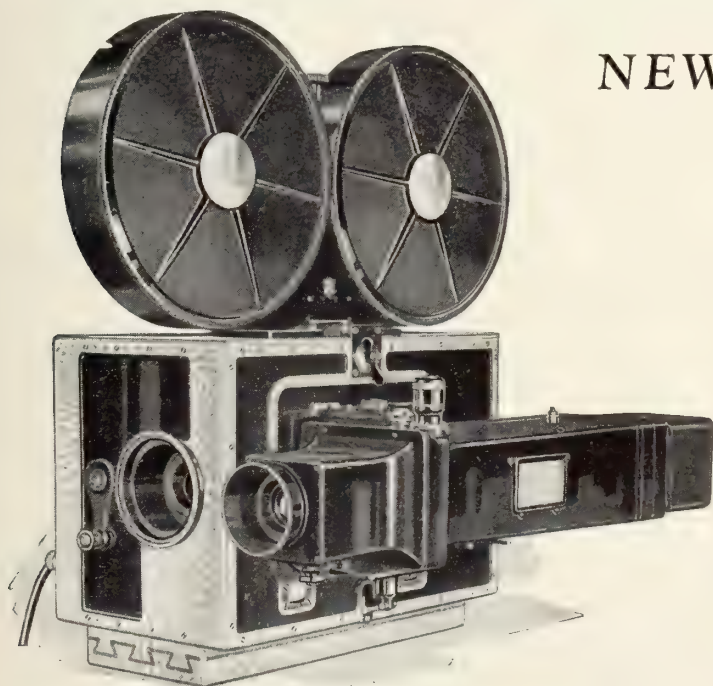


A new still camera for motion picture still work built by Fred R. Archer.

The camera front is anchored solid in order to support extra weight of turret and lens focusing is all done at the back, where it should be. The top plate which holds the front board and turret in the camera front is supported by four bolts and locked with a set screw.

The camera bed has an extension bed contained in it in preference to the extra bed usually carried and put on when wanted. This is a great time saver when working on the set and changing from long shots to close-ups.

The turret and front board are of cast aluminum and are lightened wherever possible so that the only real extra weight added is in the lens. When the camera is on the tripod it is handled as easily as any camera of like size and the extra weight is soon forgotten in its practicability.



## NEW B & H SILENCED Sound Camera

The new Bell & Howell Silenced Sound Camera, soon to be placed in production, embodies every convenience and requirement of modern cinematography, coupled with extreme durability and precision, reasonable compactness, and absolute silence of operation. Features of this new camera are:

Built-in 48-cycle motor operating direct on shutter shaft. Smooth, even speed. Specially re-designed pilot pin mechanism. Three methods of focusing: (1) built-in focusing microscope allowing focusing at any time without spoiling any film, (2) focusing by scale, and (3) focusing by means of the viewfinder. Large focusing viewfinder with micrometer adjustable hairline masks—automatically corrected for parallax. Built-in automatic trip. Camera takes lenses from 24 mm. focal length. Lenses quickly interchangeable. Built-in belt tension unit utilizing endlessly woven fabric belts. Special sound-proof magazines. Camera of double wall construction. All controls at the back.

## BELL & HOWELL

1849 Larchmont Ave., Chicago, Ill.; 11 West 42nd St., New York; 716 N. La Brea Ave., Hollywood; 320 Regent St., London (B & H Co., Ltd.) Established 1907.



# ALLIED INDUSTRIES of HOLLYWOOD

## ERPI UNDER CODE

Electrical Research Products, Inc., made the following announcement recently:

"Electrical Research Products, Inc., is a wholly owned subsidiary of the Western Electric Company and by reason of that fact has become subject to and is operating under the code of the Electrical Manufacturing Industry, approved by the President of the United States on August 4, 1933."

This code supersedes the President's Reemployment Agreement or "Blanket Code" which the company signed on August 15.

## WHOOPIING IT UP

The complete figures on Photophone theatre sound equipment business for the month of August have exceeded earlier estimates of a 100% increase and established a new, all-time high sales record, according to the statement of a high official of the RCA Victor Company.

Although in the past Photophone equipments have found a fertile field in the smaller theatres, the recent decentralization moves by large theatre circuits in which many deluxe houses have reverted back to original owners has opened up the market for the sale of larger sound systems. During the last eight months, the number of large Photophone equipments sold have more than doubled.

## SLOW-MOTION MOVIES REVEAL MACHINE DEFECTS

When, as often happens, a machine designed and built on apparently sound and proved principles just doesn't operate correctly, what can be done to determine the cause of failure? In such cases, design experts are now having recourse to the motion picture. They set the machine in motion and take "slow" movies of it as it operates. These movies reveal the behavior of mechanisms moving too rapidly for satisfactory observation by the human eye, and many baffling machine problems have been solved in this manner.

Says R. Fawn Mitchell, manager of the technical department of the Bell & Howell Company: "One of the first instances of securing increased efficiency in machine design by means of motion pictures had to do with a high-speed addressing machine which jammed in the envelope in-feed. A micromotion outfit was arranged to take a close-up of the feeding mechanism with the feeding pawl painted white to facilitate following its motion. Motion pictures taken at 4,000 frames per minute disclosed that the feeding pawl vibrated at one time and not at another. Each time the pawl vibrated it failed to feed an envelope. Not only did the picture show this effect, but they registered the time by means of a high-speed stop watch so that at least a reasonable approximation of the duration of the oscillation could be obtained. With this information the designers were able to effect improvements immediately."

## THE GOLF TOURNAMENT

Mr. Jimmy Palmer reminds the editor that plans are in process of formation for the fifth annual golf tournament of the International Photographer. The date has not yet been set but will undoubtedly be sometime before the holidays. See November International Photographer for date and program in full.

## A NEW DEAL

Associated Film Libraries, Inc., announce that they have placed their films for distribution, henceforth, with the Central Camera Company, 230 South Wabash Avenue, Chicago, who will also distribute THE INTERNATIONAL PHOTOGRAPHERS, formerly distributed by Associated Film Libraries. The offices of the latter will be at 1118 South Michigan Avenue, Chicago.

## ERRATA

In the September International Photographer, Edward H. Kemp was given credit for authorship of the article on stereoscopic theories entitled "The Pursuit of Three Dimensional Motion Pictures." The by line should have been given instead, to Mr. George Lyng, of Oakland, California, Northern California representative of Kinograms.

## NEW COMBINATION ENLARGING DEVICE

E. Leitz, Inc., announces a novel feature in connection with their enlarging apparatus. The popular Valoy Enlarger can now be supplied with attachments whereby it may be used not only for making enlargements, but for reading manuscripts and projecting pictures upon a screen as well.

A special rotating film carrier permits the film image to be placed in any desirable position, regardless of the position of the film in the enlarger. A special box may be placed under the lens, whereby film records of manuscripts, legal documents, maps and book pages may be read with ease. On the front of the box is situated a ground glass screen, sloped at a convenient angle. A mirror within the box reflects the image upon the ground glass screen. The user need only seat himself comfortably in front of the screen and view the films, right-side-up and right-side-to.

When the enlarger is to be used as a projector for screen projection, a special mirror, mounted upon a universal joint so that it may be placed in any position under the lens, is attached to the enlarger. The image produced by the lens is thus projected upon a screen. The usual opal lamp in this case is replaced with a special clear projection bulb.

The feature of this equipment lies in the fact that with one unit the owner can enlarge, project and read his films with the utmost ease and satisfaction.

Details regarding this equipment may be secured by writing the E. Leitz, Inc., 60 E. 10th St., New York City.

### MINIATURE CAMERA LECTURES

Karl A. Barleben, Jr., will give lectures on Leica Camera Photography in the following cities:

October 5th—Chicago, Ill., Stevens Hotel (auspices Leica Club of Chicago and Almer Co.).

October 6th—Cleveland, Ohio, Cleveland Photographic Society, 2073 E. Fourth St.

October 9th—Buffalo, New York, J. F. Adams Co., 459 Washington St.

October 11th—Schenectady, New York, Schenectady Photographic Society, Y. M. C. A. (Auspices Lyons Co.).

November 9th—Washington, D. C., Tilden Gardens (Auspices Leica Club of Washington).

February 19th—Detroit, Mich., Detroit Edison Camera Club, 2000 Second Ave.

Other dates will be given from time to time. Everyone interested is cordially invited to attend any of these lectures.

### NEW KODACOLOR ASSEMBLY

Of interest to 16 mm. enthusiasts is the announcement by the Eastman Kodak Company of a change in the present Kodacolor Unit (consisting of projection lens, compensator and filter) for the Model K Kodascope.

The new Kodacolor Assembly enables the operator to use his regular Kodascope K lens for Kodacolor movies. He need acquire and insert only the filter and compensator, instead of having to buy a complete extra lens.

In addition to greater simplicity and less cost, the new Kodacolor unit gives about 120 per cent increased illumination. It also gives better definition and contrast, resulting in sharper and clearer pictures.

The increase in illumination is brought about by the fact that the regular lens gives over 20 per cent more light than the old Kodacolor lens, and the new filters have a much higher light transmission value than those formerly used.

Doubling the light gives the operator two choices in viewing his pictures: He may project them the same size he has in the past and have them twice as brilliant on the screen; or if he likes he may project them twice as large as was formerly possible, with the same former brilliance. With the new unit on the 260-watt Kodascope, the screen size may be at least 22 x 30 inches; while the K-50 and K-75 may be used with a 30 x 40-inch screen, or larger if desired.

To shift from Kodacolor to black and white pictures it is only necessary to remove the filter. The compensator may be left in the Kodascope at all times, with only an occasional removal for cleansing purposes.

### HARRISON MAKES EXPANSION MOVE

The Harrison & Harrison's have been hard to locate of late as they have been busy furnishing and equipping the new quarters at 645 North Martel Avenue which will henceforth be the new home of the Harrison & Harrison Optical Engineers.

In taking space in the same building with Artreeves, a complete optical and motion picture equipment service is established under the same roof. It is hoped that the price of filters will not advance because of this move.

### DEBRIE ANNOUNCES

André Debie, Inc., announces a complete line of laboratory equipment for the handling of 16 mm. sound on film. This includes printers for the optical reduction of 35 mm. sound track to 16 mm., reduction printer for the picture as well as a contact printer for the printing of picture and sound in one operation.

All three printers are so constructed that two 16 mm. prints may be obtained in one operation. Also a compact developing machine (7 ft. long, 3 ft. high and 3 ft. wide) with complete thermostatic control, air conditioning and circulation of the bath. These new developments are in line with the progressive policy which this company has followed for over thirty years.

### B. & H. 16 MM. REELS

For those interested in securing continuous projection of 16 mm. sound pictures for periods of a half hour and 45 minutes, Bell & Howell Company has developed 1200-foot and 1600-foot 16 mm. film reels. Also the Filmosound, the B. & H. sound-on-film 16 mm. projector, has been provided with 1200 and 1600 foot reel arms.

To be exact, 1200 feet of 16 mm. film, at the rate of 24 frames per second (normal speed for sound) requires 33½ minutes for projection, and 1600 feet 44⅔ minutes. However, the statement of half-hour and 45-minute projection periods will probably be more generally used in this connection.

The new B. & H. reels are of all-steel construction and are designed for maximum ruggedness as well as for lightness and facility of operation. They have the B. & H. self-threading hub feature. The flanges have been cut out not only to reduce weight but also to provide ease in threading. Lightness is a particularly desirable feature in these reels because the weight of the film alone in such lengths is a considerable factor to be reckoned with in successful feeding and take-up.

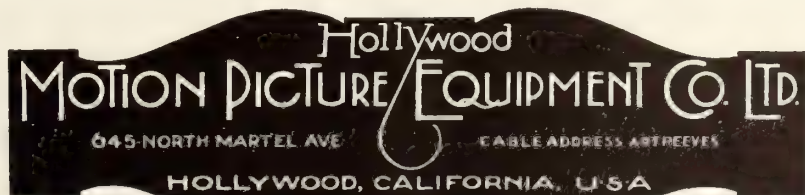
The steel material permits sufficient springiness of the flanges to eliminate the permanent set so prevalent in reels of softer material. This allows a maximum amount of hard usage without their getting out of shape.



## "Art Reeves" DEPENDABLE SOUND RECORDING AND LABORATORY EQUIPMENT

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## STORY OF BELL & HOWELL

(Continued from Page 7)

plates and then sensitized them for whatever color rendering he required to get a correct reproduction of the painting. Also, he made his own sensitometric device for judging his negative density so that he could maintain an average density for all negatives during his travels. When he brought his paraphernalia to hotels the management probably thought he was going to stay for the season.

When he discontinued photography to take up cinematography with Pathe, he entered the motion picture at the time it was learning to dramatize a story and when cameramen rode street cars or, if affluent, a horse and buggy. It was the period of motion pictures when the stage people donned whiskers and other disguises to make a few pictures—and incidentally a few dollars. "It was the time," says Joseph Dubray, "when a picture consisted of a person in trouble with a few dozen people chasing him; a favorite theme being a child stealing something, perhaps an apple from a street peddler, and in three blocks there would be a hundred people chasing him."

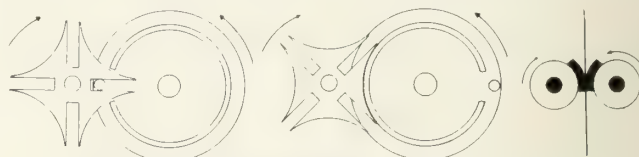
All trick effects had to be accomplished in the camera. Such things as dreams, double exposures in front of black velvet, stop motion; reverse motion and other effects were accomplished in the camera and not by later manipulation as is the practice today. Dubray says the first trick work that he saw done outside the camera was the double printing of a picture of Christ walking on the water.

In April, 1910, Pathe sent him to America to take charge of the technical work. He left Pathe in 1914 to go to war. When he returned in 1919 he joined Famous Players. His inclination toward research and engineering through the years led him to a connection with Bell & Howell in January, 1929.

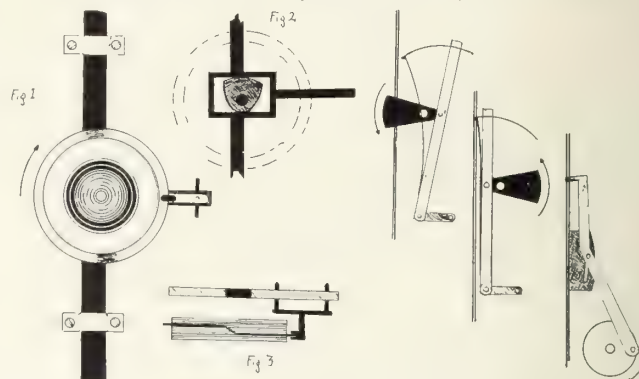
In the meantime Don Bell and Albert Howell and their company had sponsored several new inventions and improvements each year. Perhaps their most revolutionizing device was the metal camera of 1909, the first of metal cameras. Its innovations were a turret having four lenses of different optical properties at the instant disposal of the cameraman and pilot pins for steadying the film during exposure. For the first time, cameramen could fade-out, lap dissolve by automatically changing the shutter. The first of these cameras sold to Essanay

and the second to Kalem. They started on their way to popularity about 1912 and in a few years they were in universal use.

Another invention having far-reaching effects was the continuous printer. Previous to its perfection, printing motion picture film was a laborious process. In most cases it was necessary to print each scene separately, as printers were not equipped with other than manual light changes for the different densities of daylight or night scenes or errors in negative densities. Besides giving a



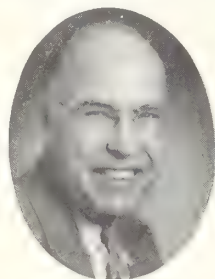
Right, Friction movement similar to that used by Biograph. Left, Geneva Star used by Edison showing two positions.



Left, Cam movement (combination of harmonic and planetary cam) used by Lumiere, Pathe, Lubin, Selig, Universal, and Gillon. Figure 1 shows planetary cam for the in and out movement. Figure 2 shows the harmonic that was used for the down pull. Figure 3, looking down on the movement. Center, Spring Claw showing two positions of the movement used by Prestwich and Ernemann. Right, Simple Claw used by Williamson, DeBrie, Moy, and others.

Drawings by W. W. Clendenin.

correctly exposed film its use resulted in a steadier and sharper screen picture. Though Bell & Howell had introduced a small hand-trip printer in 1908, the magnetic light control printer was first put on the market in 1911. This last printer was further improved by the addition of a back shutter in 1923 in the model "D" printer that is in use today. This device has probably done more for the film processing laboratories than any other single piece of equipment.



FAXTON DEAN

## Hollywood's Bargain Spot Photographic Equipment

For Sale

Several Used MITCHELL AND BELL & HOWELL  
Standard Studio Cameras, Completely Equipped.

# CAMERA SUPPLY CO., LTD.

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Cable Address "CAMERAS" All Codes

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HOLLYWOOD, CALIFORNIA

Now Howell has further improved laboratory equipment with the recent introduction of an automatic printing device. It is so complete that all that is required of an operator is to place his negative in the machine and then take a nap. He would be safe in doing so! The negative runs through, back and forth, the sound and picture are both printed in one operation, the negative is cleaned and the lights changed for varying scenes without a single manual operation.

Recently at Metro-Goldwyn-Mayer Laboratories where this machine is being tested, an N. R. A. subject was printed 1000 times without a single stop of the printer. The machinery ran for days without an interruption. Contrast that with the conventional machine in use today that requires an operator to sit in a very subdued light and strainingly glue his eyes on the delicate negative in order that no harm comes to it and to control the rapidly running device. And with the conventional machine it is necessary to remove the negative and rewind it and remove the accumulated dirt particles before again re-threading it for the next print.

From the inception of the motion picture, it was the desire of engineers to make home equipment that would give good pictures and at the same time be small enough so the film expense would be reduced to a minimum. A multitude of devices were introduced using various widths of film from 6 mm., 9 mm., 17½ mm., 20 mm., 28 mm. and many others. In 1922, Bell & Howell introduced a 17.5 mm. Filmo camera and projector. A year later it was discontinued and they introduced their first 16 mm. Filmo Projector and Camera. That was the beginning of the home movie vogue. Due to the spring driven motor, steady pictures and inexpensiveness of operation of this small equipment, people very shortly throughout the world went "amateur." The schools and churches followed.

To assist in the Home Movie problem, the Eastman Company in 1923, put on the market a 16 mm. reversal film. It cut in half the cost of taking home movies.

Joseph H. McNabb, now president of Bell & Howell, joined the company as general manager in 1917. At the time he purchased a small block of stock from Don Bell, who was then president. Very shortly, McNabb along with C. A. Ziebarth, who is now the secretary, and Mr. Kittredge, McNabb's father-in-law, bought out Mr. Bell. Bell continued with the company for another year as general manager of the New York division and then due to illness he retired to his ranch in Brawley, California.

The standardization brought to the motion picture by Bell & Howell may be accredited to Albert Howell, who had as a boy of fifteen, in 1895, arrived in Chicago from an Indiana farm and lumber camp and immediately became a mechanic's apprentice. While on the farm he had taken care of the many mechanical repairs on the farm machinery; but that was not enough, he wanted to become a mechanical engineer. He went to school nights and studied during odd moments. After arriving in Chicago he enrolled in night school, first as a high school student and then finally, as his earnings permitted, he went to the Armour Institute of Technology.

After his apprenticeship came to an end he took various jobs with mechanical concerns making special machinery. The struggle to get an education and his strenuous life fitted him well for the job of bringing to the motion picture a standardized equipment.

In 1928, the Franklin Institute awarded him the Wetherill Medal for discovery, invention or development in physical science and a year later he was given an honorary life membership in the American Society of Cinematographers.

His contributions to the industry were appreciated.

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# PRESS PHOTOGRAPHY MADE EASIER BY MINIATURE CAMERA

By AUGUSTUS WOLFMAN

As many free lances still do, for years I had been lugging about a 4 x 5 reflex camera. It has produced many saleable prints for me, but I have found its bulk objectionable on many occasions. When at least twenty other cameramen are at a scheduled news event each trying to get a "shot" of a posing celebrity—well, shoving in to get your photo is a problem, and many times you fail.

Such a failure finally determined me to try a miniature camera. I was covering an event where besides a host of cameramen and newsreel men, there was a large crowd of people pushing and shoving, hungry for a glimpse of the celebrities that we were photographing. Each time I had focused the figures on the mirror I was either pushed, or some fellow would step into the scene. I obtained pictures, but the results were far from what I had desired.

Next day found me in a photographic shop. After due consideration I acquired a Leica camera and an additional 105 mm. telephoto lens. A few preliminary test shots proved to me that when correctly developed, and handled with ordinary care, the miniature negative can be enlarged to produce good 5 x 7 and 8 x 10 prints.

My first experience on the job with the Leica was at the Gipson All-Woman's Air Meet in Long Island. When toting my large camera I usually pass through the police lines without being questioned, the large professional reflex stamping me as a news cameraman. I had no sooner stepped into the field with the little Leica in my hand when a policeman lustily bellowed, "Hey, where are you goin'?"

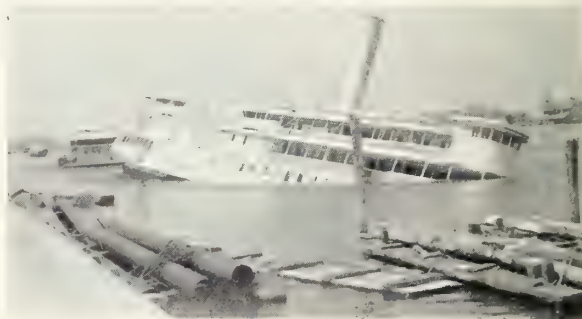
I produced my police pass, so with a suspicious look at me and a disgusted glance at my midget camera he allowed me to enter upon the field.

As usual there was a good representation of press photographers. Everything went smoothly until the race had finished. The crowd of onlookers had then managed to break through the police lines and rush to the spot where the winner had just started to pose for photographs. The crowd, desirous of getting a glimpse of

the winner, made it tough for the boys who were hurriedly maneuvering their big cameras to get a "shot." I pushed through, got on my knees in front of the battery of 4 x 5's and 5 x 7's and started "shooting" away with the little Leica.

Focusing was easily obtained with the built-in range finder. With a little practice it's as fast as lightning. I had enough film for 36 pictures so I kept "shooting" to my heart's content. No changing of plates or pulling of filmpack tabs; a turn of a knob wind the shutter, and shifts the film at the same time. I hardly missed a chance for a "shot." Naturally, its negligible weight and bulk allowed me to maneuver about quite freely.

The development and printing of the roll of film yielded me 28 good prints of the 30 exposures I had made. A good batting average, indeed.



The fast interchangeability of lenses allowing me to convert this miniature into a telephoto camera in less than a minute is a distinct advantage I could not enjoy with my larger camera. The illustration of the half submerged ship pictures the sad ending of an excursion boat which was to be converted into a floating beer garden—a "shot" of good news value. With ordinary lens equipment it would have been necessary to experience difficulty to get close enough. In less than a minute my 50 mm. lens had been removed, the 105 mm. objective inserted in its place, and the photograph taken.

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When my earnings permit I intend to obtain additional lenses of both longer focal lengths and larger apertures. The beauty of the Leica is that all this equipment can be carried in one compact case which is smaller than my 4 x 5.

Naturally, the adoption of the miniature will require a change in the technique of the man who has been using a large camera for years. The habits of care and cleanliness, if not already acquired, will have to be cultivated.

Let us consider the film first. It is necessary to choose a type which will produce a fine grain. I have found Agfa Plenachrome, and Gevaert Orthochromatic to produce fine-grain, snappy results. Panchromatic and superspeed emulsions are also available. Of these DuPont Superior, Eastman Panatomic, and Agfa Superpan produce excellent results. Orthochromatic film has the edge in producing snappy, contrasty negatives.

Since the camera accommodates standard 35 mm. motion picture film the cameraman can purchase his film in bulk and load his magazines in the dark room. This will reduce the cost of the negatives to a negligible amount.

Every conceivable type of emulsion is available, even an infra-red sensitive film—DuPont Infra-D.

Development will of course entail the use of a fine-grain developer. When time is limited prepared fine-grain developers are available. Of these I have found Perutz Fine-grain Compensating developer, Agfa Fine-grain developer and No-grain developer, to be excellent.

If you wish to prepare your own developing solutions the well known Eastman D-76 Borax formula produces good results. Negatives of extreme fine-grain are made by development with paraphenylene-diamine. Two formulas are available. The first solution is for use with negatives of normal exposure. If very great enlargements are desired extreme fine grain will be produced by formula No. 2. This will, however, necessitate that the film receive twice-normal exposure.

#### Formula No. 1

Paraphenylene-diamine	- - - -	90 grains
Sodium Sulphite	- - - -	450 "
Borax	- - - -	255 "
Tri-basic Sodium Phosphate	- -	210 "
Water	- - - -	16 ounces

Develop for 30 minutes at 68° F.

#### Formula No. 2

For twice-normal Exposure.

Paraphenylene-diamine	- - - -	90 grains
Sodium Sulphite	- - - -	525 "
Water	- - - -	20 ounces

Develop for 30 minutes at 68° F.

After the film has been thoroughly fixed and washed it is best to remove all excess moisture with a moist chamois. Extreme care is necessary throughout the process to prevent scratches.

It will be found that very little experience is required before one accustoms himself to the miniature. Once the press photographer adopts the miniature he will find it difficult to part with it. The work of carefully producing tiny negatives, and enlarging them to good 5 x 7's and 8 x 10's seems to fascinate one. The miniature will be found a Godsend to the cameraman, but let me remind you again that all sloppy methods will have to be shelved, and care and cleanliness practiced throughout the entire procedure. Little things show up big when greatly enlarged.

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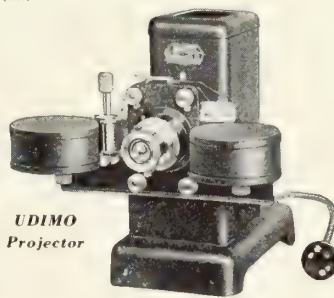
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## LIGHT FILTERS

(Continued from Page 18)

vised primarily to enable the cameraman to get the correction which the Aero 1 and Aero 2 color filters afford, while at the same time allowing them to use their lenses relatively wide open. This is made possible because of the light absorbing characteristics of the incorporated neutral filter dyes. The factors of these two filters are 4 and 5 respectively. These filters are particularly useful in street scenes where the illumination is extremely high and where there are highly reflecting surfaces in the field of view.

## G

This filter is deep yellow in color and has a filter factor of 3. Its spectrophotometric curve, given in Figure 9, shows almost complete absorption to a wave length of 500 millimicrons. There is a slight transmission band in the violet in the neighborhood of wave length of 320 millimicrons but this has relatively little effect from the color correction standpoint in practical photography. This filter is used for more pronounced effects and produces these effects because of its almost complete blue absorption. The slightly enhanced contrast produced by this filter is very agreeable in open landscape work where there is a considerable portion of sky in the field of view. The effect of the filter is to darken the sky to such an extent that the foreground stands out in more general relief. This filter is also useful for seascapes as it tends to darken the water and thus show a differentiation between it and certain objects on it, such as boats, etc.

## 23A

This filter is light red in color and has a filter factor of 3. The spectrophotometric curve of this filter, given in Figure 10, shows complete absorption up to and including wave lengths 560 millimicrons, thus the violet, blue-violet, blue-green, and most of the green are completely absorbed. The filter transmits, therefore, only the colors in the longer wave length portion of the spectrum, that is, yellow-green, yellow, orange, orange-red, and red. This filter is used for the contrast type of exterior filter photography. It is particularly useful in scenic and cloud effect shots, as well as in seascapes. It produces a dark sky without lightening the foreground to an objectionable extent. This filter slightly lightens the normal panchromatic makeup. This phenomenon will be discussed in more detail later.

## 72

This filter is deep red in color and shows complete absorption up to wave length 590 millimicrons. Except for an absorption band which reaches a maximum at wave length 660, this filter transmits quite a little of the visible red. There is no filter factor computed for this filter because of its great absorption of visible light. It is used almost exclusively for the purpose of producing night effect shots in the daytime. It is recommended that this filter be used at full aperture, that is,  $f/2.5$  to  $f/3.5$ . The night effects produced by the use of this filter are much more natural than similar effects made with heavy neutral filters or by the simple expedient of under exposure. This

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## OLD NEWSREEL DAYS

Joe Johnson, New York newsreeler, sends the accompanying snap shot as a contribution to the history of newsreeling. It was taken in Chihuahua City, Mexico, in the spring of 1916, at the residence of the Mexican general in charge of that district.



The cameramen in the picture from right to left, in the back row, are Tracey Mathewson of the Hearst Newsreel; Dick Burrud of the Gaumont News, and next to him you will recognize Gilbert Warrenton who was down there making pictures for Universal. The man cranking Warrenton's camera is United States Consul Letcher; next to Mr. Letcher is Beverly Griffith, of Universal at that time, and next to him, behind the Universal camera, is Nick McDonald, of the old Selig Tribune Weekly. The Mexican cranking McDonald's camera is the general of the district. Next to him is myself, working at that time for Pathe News, and some Mexican general who was also cranking my camera. The men in the front row are all newspaper correspondents.

In the early part of 1916 all the newsreels were represented on the Mexican border, just after Villa's raid on Columbus, New Mexico, and during General Pershing's occupation of Mexico. A false report came in that Villa had been assassinated at Chihuahua City and all the cameramen grabbed a freight train and went down there. It was on that occasion that this picture was taken.

## LIGHT FILTERS


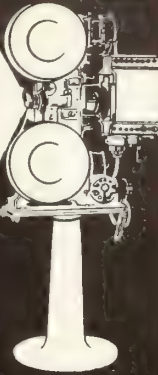
(Continued from Page 28)

filter, therefore, is to be recommended in place of these other two means of producing night effects. The spectrophotometric curve of this filter is given in Figure 11.

Although this list of filters is particularly recommended for use with super-sensitive film, it must not be construed that it is impossible to make use of other color filters. The authors are attempting in this paper to clarify the subject matter of filter photography and make simple recommendations for the use of filters for cameramen in general. For that reason it seems desirable to keep the recommended filter list at a minimum.

There are two very important factors which should be borne in mind by any cameraman in the selection of filters. These are: 1—To render a color lighter than it appears visually in comparison with the surrounding brightness in the field of view, a light filter which selectively transmits radiation of the wave length corresponding to the color must be used. 2—To render a color darker than it appears visually in comparison with the surrounding brightness in the field of view, a light filter which selectively absorbs radiation of the wave length corresponding to the color must be used. Stated in a little different terms this means that if there is a yellow object in the field of view which it is desirable to render very light, a yellow filter should be used but if it is desired to suppress the brightness of the yellow object, then a filter which absorbs the yellow must be used, for example, a red filter.

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Developing, Printing and Enlarging Leica Pictures is the fifth edition of this booklet of 48 pages just issued by Willard D. Morgan and Karl A. Barleben, Jr., F.R.P.S.

The book, five by seven inches, is chock full of information about the Leica camera and the processing of Leica film and if anything is left out it is not apparent.

Here is the information—if the Leica photographer does not get results after reading it the fault is his own, for in this book is a liberal education in Leica lore.

In the index there are 47 different headings among them being Dark Room; Developing Leica Negatives; Developing formulas, Enlarging Leica Negatives; Film for the Leica Camera; Filter Factors; Fine Grain Finishing Essential; Leica Service Department; Positive Printing; Projecting Leica Pictures, etc.

An idea of the excellent handling of the materials in the possession of the authors may be had from the accompanying chart showing the ten important points in developing Leica negatives.

## MOTION PICTURE SOUND RECORDING

(Continued from Page 11)

steady d-c. current. The rapidity with which the lamp flickers is governed by the frequency of the speech current, and is greatest at high frequencies.

The light from the lamp is not focused sharply on the film; but a portion of the light reaches the film through a small slit. This slit is formed by a narrow line, ten mils by about eight-tenths of a mil in size, engraved in a silver coating on a piece of quartz glass that is approximately two hundred mils square and twenty mils thick.

Another piece of quartz glass that has a thickness of only one mil is cemented over the silver coating to protect the engraved slit from dirt and damage. The quartz glass assembly is held in contact with the moving film by a floating metal shoe; and the Aeolight is mounted in a special holder directly back of the quartz glass.

As the film is drawn past the slit engraved in the silver coating, it is exposed in a varying degree by the flickering light of the Aeolight tube. This produces a sound track having constant area (because the dimensions of the slit are fixed) but variable density. The sound track is formed of narrow bands (or striæ) of exposure running transversely of the track. These exposure lines vary in all degrees of density from that produced by the normal unmodulated brilliancy of the lamp to an almost total exposure of the film. The higher the pitch of the sound, the narrower the bands; the louder the sound, the greater the contrast in density between adjacent bands.

The remainder of the equipment used in the RCA Photophone and Fox Movietone recording systems is so much like the Western Electric recording equipment that no further description of these systems will be given. It will be mentioned, however, that these two systems employ a different form of motor control arrangement; and that the Photophone has a shutter device for noise reduction and a ribbon microphone that are not exactly duplicated in the Western Electric system.

As has been explained, with the exception of the actual recording device, the main features of all the systems are basically the same. If the operation and the theory of the functioning of one of the three sound recording systems above mentioned are thoroughly understood, it is not difficult to master the practical and theoretical operation of the other systems after a little specialized study. Since the Western Electric recording system is now the most widely used, it will be discussed from the microphone to the finished film and wax sound records in the following chapters.

To be continued in November.

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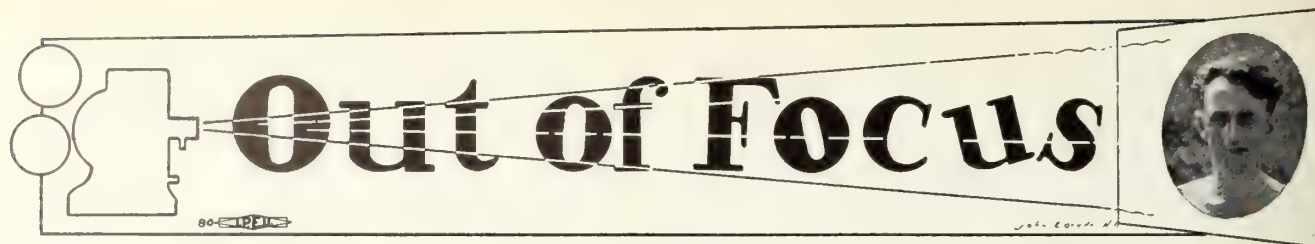
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By OTTO PHOCUS



(This is Artist John Hill's idea of the flight of Otto Phocus to Washington. It will be noted that Mr. Phocus is sitting on a wing of the plane cogitating over the vanity of earthly things. A careful inspection of the countenance of Mr. Phocus will disclose that he is in a state of mellifluous obfuscation, whatever that is.—Editor's Note.)

Washington, D. C.,  
Sept. 21, 1933.

Dear Editor:

Someone had to go to Washington for the N. R. A. hearings as an exhibit of the forgotten cameraman—and that's me. When we arrived at the airport our baggage was weighed.

"How much do you weigh," the agent asked me.

"I'll tell you if you'll tell me," I replied.

I discovered that it was necessary to weigh everything that was carried in the plane and told him 140 pounds.

"T. W. A.," remarked the porter as he took up the bags.

"N. R. A.," I replied, trying to keep up with him.

"Seat number nine," he said, and my bag was shoved up into one of the wings of the plane.

After a few more passengers were helped through the door it was locked from the outside and we started down the field. Suddenly it dawned upon me that I had forgotten my camera, adhesive tape, bailing wire, filters and sash cord, then I realized I was a passenger and was not going to photograph from the air. This was my first trip as a passenger although I had been flying since 1923 on photographic assignments.

We went to the end of the field and stopped. The pilot tried out each engine of the tri-motored plane to see which one would make the most noise. Not being satisfied he tried all three of them at the same time and as the result seemed to please him we were on our way and in the air before you could say Pavallo Zbyszlwyslf.

Soon we were flying over Los Angeles and it was a beautiful sight. I couldn't help but think that if I had a lot of things to do over again I would have a lot of work.

The co-pilot came out of his office and passed out little packages that contained cotton and chewing gum.

We hit a few air pockets about this time and when I found the chewing gum had no flavor I knew it was cotton, so I put it in my ears and swallowed the chewing gum. The gum and cotton are supposed to be good for something—but no one told me what. Anyhow the studios never passed out any while flying for them, so we just let it go.

A little later the pilot came back with free copies of the Evening Herald. I thought this was swell, but a dirty trick, as I had purchased a copy at the airport. Every seat had a container of orange juice strapped to it. I discovered later that they were empty—and for another purpose.

Then we looked out the side of the ship and saw a bright red light. We wondered what it was and tried to place it. After quite a while we noticed that it did not seem to get any nearer. As the co-pilot passed we asked him what it was and he explained that it was a running light on the ship. This stopped us and we tried to get some sleep.

After about two hours I felt someone feeling around and when I awakened discovered that it was the co-pilot putting the safety belt around me as we were going to land. He told me that we were to land at Kingman, Arizona, and that they would train me there. I told him that a certain party had tried that for years without success, but I found we were to take the train from there to Albuquerque, New Mexico, due to bad weather ahead.

After we got on the train we went back to the observation car (as all good cameramen do) and met Ed. Hammeras and his assistant, Paul Mohn. They were on their way to the Grand Canyon to make back-grounds. We said, "Here's how," a few times and then to bed.

We left Albuquerque the next morning and everything went well until we got into Kansas City. We had to change planes there and that meant we had to go through the weighing process again.

"How much do you weigh," the agent asked.

"Oh, about 144 pounds," I answered.

"The trip must have agreed with you," said the agent, "you have gained four pounds since you left Los Angeles."

I said: "I didn't gain it on your ship. I had breakfast at Santa Fe this morning and the company (659) paid for it."

Then I skipped over to the lunch room and was enjoying myself when one of the waitresses asked me if the gentleman with me was Jack Holt.

"No," I replied, "that's Lew Blix of Local 37."

"Oh, yeah," she replied. "Then I'm Marjorie Bebee of the 5:15 Express," and walked over and rang up twenty-five cents for a fifteen cent bottle of beer.

I always thought St. Louis and Indianapolis were pretty good sized towns, but they are only five minute stops on this line. They stop only to refuel. I was thinking of how the pilot must feel when he pulls into one of these places and tells the boys to fill her up and check the oil. Imagine getting a bill for 200 gallons of gas and a few gallons of oil! The only good part of it would be the fact that they paid no federal or state tax.

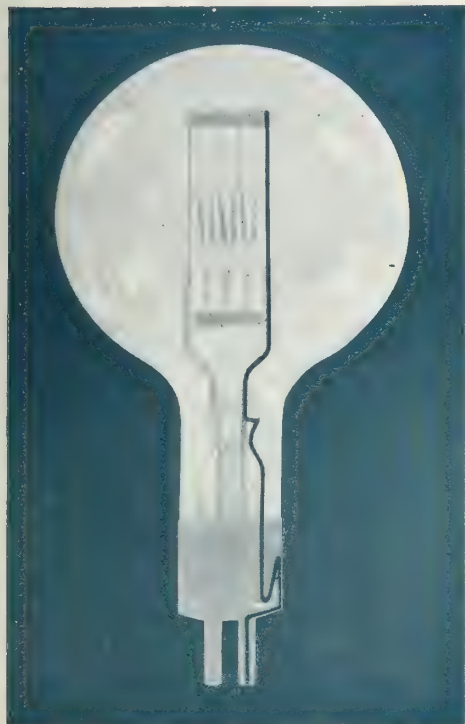
Well, Pittsburgh ran true to form. They had no Sunday planes out of there and we were carried on to Camden, New Jersey, where it is illegal to sell beer before 1:00 P. M. on Sunday. After a couple of hours lay-over we got a plane from there and landed in Washington about 13 hours late.

This is about all I can tell you at this time, except it is alleged that Sol Rosenblatt has a larger nose than I have.

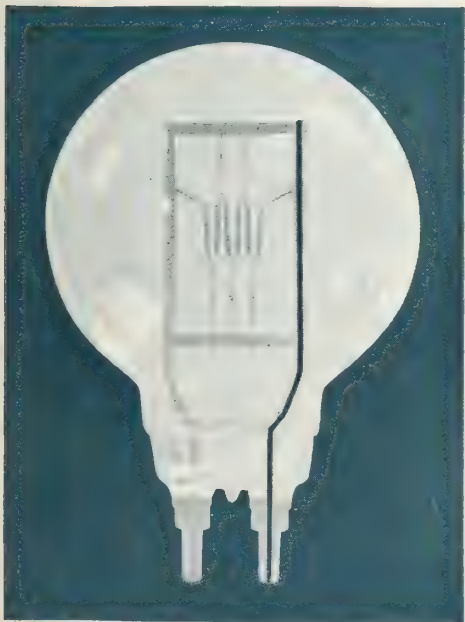
Hoping to have some good news for you later on, will close, hoping you all catch the "code in my head."

OTTO PHOCUS.

# *Why* **GENERAL ELECTRIC** *developed* *this new style high wattage lamp*



OLD TYPE 5 KW LAMP



NEW TYPE 5 KW LAMP

WHEN the electricians shift lighting equipment from place to place on the set, the lamp in each reflector is inevitably shaken and jarred. This snaps the filament about as if it had been struck with a mallet . . . or were the end man in crack-the-whip.

What takes the shock of these blows? Suppose we follow on the diagram, the complex path they travel through the supports of one of the old type 5 KW lamps. Down multi-metal supports into a brittle glass stem, up through basing cement and then down to the prongs . . . with leverage and weakness increasing all the way. At any one of eight points, a break may occur, bringing premature lamp failure.

The movies brought a tough life to this lamp—tougher than any previously known. But G-E scientists, alert to motion picture requirements, began work on a lamp that could live it. They tried stems of different kinds of glass. They tried other experiments. The lamps *were* improved, but not enough. Gradually these experimenters reached one conclusion: great improvement would result only from the elimination of the glass stem . . . a part of lamp making since the days of Edison.

To accomplish this they turned to the method of fusing copper and glass developed in making a 50 KW lamp for Light's Golden Jubilee. But a year and a half of intensive experiment and test, without a single let-up, went by before G-E made this new 5 KW lamp available to you. In this new type construction, as the diagram shows, the channeled nickel filament support takes almost a straight line from filament to prongs. Stronger, more rugged, more accurate and better adapted to studio needs, this new lamp has been rapidly adopted by studio after studio.

Improving existing types of lamps constitutes only part of G-E research. Other groups of scientists and engineers are steadily developing new lamps for new requirements. Still other groups constantly test and check a definite proportion of factory production on all types of lamps. Such work breeds confidence. Little wonder that studios from coast to coast use G-E MAZDA lamps for all their lighting needs. General Electric Company, Nela Park, Cleveland, Ohio.

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TH YEAR

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VOL. 5  
NO. 10




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Alvin Wyckoff and his technical staff, of the Seven Seas Corporation, on location, Island of Kauai, Hawaii; lined up for action on its first big feature.

PHOTOGRAPH  
BY J. R. SENDA

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# INTERNATIONAL PHOTOGRAPHER

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This Magazine represents the entire personnel of photographers now engaged in professional production of motion pictures in the United States and Canada. Thus THE INTERNATIONAL PHOTOGRAPHER becomes the voice of the Entire Craft, covering a field that reaches from coast to coast across North America.

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Something new and attractive in camera blimps.



Photograph by Alex P. Kahle. Posed by Dorothy Revier, featured by R-K-O.







# WEST TO PARADISE

By ALVIN WYCKOFF, *President International Photographers*

A place of dreams for the dreamer, exploration for the scientist, never ending material for the artist and opportunity for the man of commerce—that's the Hawaiian Islands. Rich in legends of the past, in fertile soil and beautiful forests, with flowers of every hue, this archipelago, formed by subterranean eruptions in ages past, raises massive peaks above the sea.

To this paradise, one bright morning in August, there sailed the first company of the Seven Seas Corporation. The unit was headed by those two energetic men, William Fiske, III, and Count de Alfredo di Carpegna.

Amid the waving and shouts of friends the Steamship Lurline slipped its hawsers and steamed slowly down the harbor from Wilmington on the adventurous quest of romance to the Island of Kauai.

After six days of supreme comfort and frolic on this beautiful vessel the company was landed on the wharf at Honolulu to spend the afternoon in this delightful vacation city. At 9:00 P. M. of the same day the staunch little Steamer Waialeale reloaded the company and equipment and slipped out of the harbor, depositing its burden at the port of Nawiliwili at 8:00 the next morning.

Now the adventure commenced on the Garden Island of the group. Here was scenery, plantations of sugar cane and pineapples, deep ravines, canyons, black perpendicular cliffs—and a climate that beggars description. Toward the interior one's eye caught huge summits lost in darkening clouds, while off to the north beautiful rainbows, descending over the heights were lost in the waving tops of cocoanut palms.

Our headquarters were to be at Waimea, thirty-one miles to the west, over a well-paved road, along the southern side of the island. We passed old Hoary Head Range, a range of mountains covered by a heavy growth of timber, over which, at a low pass, a former king of this island had carved from rock a roadway of steps up over the summit and into the next valley, so that the choicest fish might be brought to him fresh by his runners.

We passed rolling plantations of pineapple, through Koloa, where amid tropical growth is standing what is said to be Hawaii's oldest sugar mill, thence past the mouth of Hanapepe Valley with its long beautiful thread of Bridal Veil Falls and finally entered Waimea, which is quite a town.

It was at this place that Captain Cook, with his adventurous crew, landed June 19, 1778. A monument erected there credits Captain Cook with the discovery of these islands, which he named in honor of the man who financed his expedition, the Duke of Sandwich. It was not so long ago that the name Sandwich Islands

was changed to Hawaiian Islands.

Here we settled down to work in earnest, to weave the story that would deal in its climactic sequences with the chief industry of the island—SUGAR. How little one realizes when he lifts that little cube of sugar the romance and labor that lies behind it.

Four miles from Waimea is located the town, the plantation and the very efficient sugar mill, Kekaha. Between these two towns and beyond are located some of the finest old plantation homes of the island. Others are situated at Makaweli. To the north all the way from Haena, through Hanalei and down to Wailua, on the western coast, are fine old plantation homes that carry in their memories days of royalty. Among these is the Vally House, built by General Spaulding and still occupied by his descendants.

The mechanical romances of our story were centered around the sugar mills of Waimea and Kekaha.

Through the generosity of the brothers Faye and the open-door hospitality of the plantation people, we were enabled to stage our greatest climaxes, one of which was forty acres of deeply matted tropical growth and fifteen foot standing sugar cane given to the flames, representing a heavy cost in many tons of sugar. It occasionally happens during the height of the trade winds that one of these vast plantations will become ignited in some way. The fire consumes everything in its path, while hundreds of men from all plantations will laboriously cut fire breaks in an effort to stop the destruction.

The locale for the domestic side of our story was a beautiful old plantation called Waiava, nestling in the shade of graceful cocoanut palms, beautiful mango trees, giant spreading monkey pod trees and banana palms. Hedges of hybiscus, night blooming cerus and frequent sprinklings of red and white ginger blossoms made a scene of unbelievable beauty and, when to this was added the symphony of thousands of birds, one began to wonder whether it were real.

About fourteen miles down the road are the Barking Sands, formed of minute particles of prehistoric shells, whose inmates gave up their lives in the heat of the water when lava flowed down from the volcanoes which now form those blackened peaks. The Napali Coast, a little further on, is inaccessible, for these black lava cliffs rise out of the ocean to a sheer height of two thousand feet and more, except for an occasional break which created Honopu Valley—said to be the Valley of the Lost Tribe—and Kalalau Valley, made famous by Jack London in his book, "Koolau the Leper." These places may be reached by boat only when the ocean is in a pleasant mood.

(Turn to Page 24)



Left to right—Otto Gillmore, inventor Gillmore Color Process; Frank Titus, second cameraman; Alice Johnson, secretary; William Carr, assistant director; William Jolly, Jr., assistant cameraman; Alvin Wyckoff; J. R. Senda, plantation photographer; Kenny Koontz, properties.



# Watching the Growth of Golden Gate Bridge Through the Camera's Eye

By FRANK W. VAIL, *Golden Gate Wing, Local 659, I.A.T.S.E.*

"Since man first pierced the wilderness of this Western Empire and began with intrepid fortitude to create, in San Francisco, the metropolitan city of a new era, the majestic Golden Gate, the marine highway connecting the bay of San Francisco with the Pacific Ocean, has by its expansiveness challenged the genius of man. This arm of the sea, in the form of a natural barrier, has prohibited the joining of the neighboring sister counties of Northern California by a system of highways.

In 1919, a definite solution of the problem of spanning the Golden Gate was specifically undertaken by Mr. Joseph B. Strauss, an eminent engineer. Following a preliminary examination, Mr. Strauss concluded that a span 4000 feet in length would be necessary—a span two and one-half times longer than any span yet built.

Approval of the project from the War Department was given on December 20, 1924. On March 12, 1930, the engineers met to pass on the boring tests, which established the full sufficiency of the sub-surface strata, for the loads imposed.

Preliminary work was undertaken November 28, 1932. Actual construction was officially commenced January 5, 1933, when the building of a gigantic cofferdam for the Marin Pier at Lime Point was started. (See illustration.) While on the San Francisco side, an 1100 foot access trestle reached from the shore at Lime Point, to the pier site.

By a resolution of the board of directors of the Bridge and Highway District, the S. C. Long Productions, of San Francisco, were selected to photograph in motion pictures, the progress of

the building of the great span, under the direction of Commander James Reed, general manager. Frank W. Vail, chief cameraman of Long Productions, was placed in full charge of the film work. Thousands of feet of film have been exposed and show the work, step by step, in detail. Bell & Howell, Akeley, DeVry and specially built camera equipment is being used. Probably for the first time sound pictures are being made of actual construction work, "Soundfilm" recording equipment being used. The story is being covered from lofty parallels, reaching as high as 240 feet from the ground, by airplane, and beneath the waters of the Golden Gate, where pictures of the sub-sea pouring of concrete will be filmed.

The accompanying Leica shot was made by Camera-man Vail on a recent aerial survey and shows the progress that has been made to date.

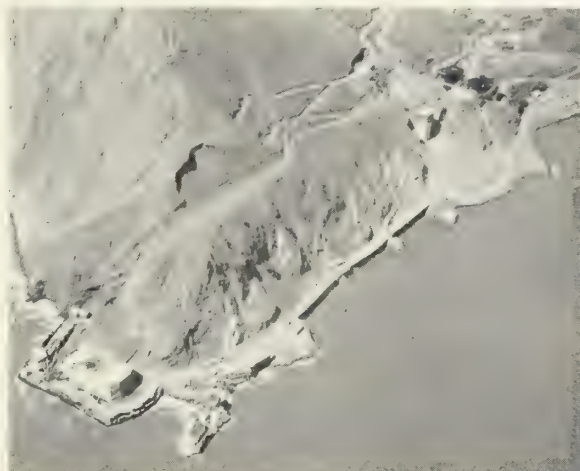
When completed, the bridge will have a total length of 6450 feet. The minimum vertical clearance above mean high water, at bridge center is 220 feet. The

two main towers, the highest and largest bridge towers in the world, will reach 746 feet above mean high water. The total width is 90 feet, providing six lanes of traffic and two ten-foot sidewalks. The two supporting cables are 36½ inches in diameter and have a load supporting capacity of 430,000,000 pounds, 2.6 times the actual load.

The total wire length in the two cables is 80,000 miles—long enough to circle the globe three times.

It is fitting that the greatest engineering feat of the age, the Eighth Wonder

of the World, the Golden Gate Bridge, should be photographed by a member of the Golden Gate Wing of the International Photographers, Local 659.



## PRODUCTION IN FLORIDA

Max Stengler has returned from St. Petersburg, Florida, where, at the Sun Haven Studios, he shot three pictures for T. C. Parker, Jr.

These releases were "Chloe," with Olive Borden and Molly O'Day, directed by Marshall Nielan; "Playthings of Desire," featuring James Kirkwood, Josephine Dunn, Linda Watkins, Molly O'Day, directed by George Melford; "The Hired Wife," starring Greta Nissen and a cast including James Kirkwood, W. Hayburn and Miss O'Day, also directed by Melford.

Mr. Stengler had a satisfactory sojourn in St. Petersburg and reported the studio as being well equipped and efficient.

Lester Tracy was the chief electrician and Glen Percy, sound engineer. A new stage 125 by 125 is building in view of greater production activity in future.

## STAUB IN NEW YORK

Ralph Staub has just completed his first comedy for Warner's Vitaphone. The picture was shot in New York with Ben Blue as the comic. Our young director expects to remain in the East about six months.

## 1440 R.P.M. MOTOR FOR DIRECT DRIVE ELIMINATES GEARS IN TALKIE CAMERA

A new 1440 R.P.M. synchronous motor, developed by William Hoyt Peck, president and chief engineer of the Peck Television Corporation, will afford a simpler and more effective means of driving talking picture cameras and projectors. It may be coupled directly to the 1:1 shaft without the need for intermediate gearing, as now employed.

As present sound-on-film equipment takes pictures at the rate of 24 frames per second (or 1440 frames per minute) the new motor will give an even speed of one revolution per frame. Tests made both with stroboscopes and revolution counters show that the Peck motor snaps into synchronism immediately and locks there.

The 1440 R.P.M. synchronous motor is as economical in operation as any other synchronous motor, and is no larger or heavier than others of equal power. It employs a new principle, that of "phase shift" in addition to split phase. This idea was evolved by Mr. Peck after leading electrical engineers and motor manufacturers had found it impossible to adapt the ordinary synchronous motor efficiently to the required speed.





# THE PHOTOGRAPHER IN THE WORLD WAR

By EARL THEISEN,  
*Honorary Curator Motion Pictures, Los Angeles Museum*

"The military masters of Germany," said President Wilson, in his Flag Day address in 1917, "denied us the right to be neutral." So the country called its photographers and some men together and declared war. It was a war, too! The photographers went to school to learn photography and to treat hiking blisters while the army learned to fight the Germans. And both learned to fight vermin.

Until early in June, 1918, all photographic and aviation activities were part of the Signal Corps. At that time the Signal Corps reverted to its original function of signalling, transmitting military information, and creating records. This last activity was given over to a group of photographers, whose chief duty was to supply George Creel, of the Department of Public Information, with film for the newsreel in the United States, supply photos to the newspapers, and to create historical records on film.

This rather gay group of men who had been mostly newsreelers before the war went to Europe to "get" the war. Traveling about in Fords, in groups consisting of a cameraman lieutenant, a still photographer sergeant, a private with a strong back and chauffeurs, 600 of them traversed the war zones. Since they had to get their pictures without drawing enemy fire, their natural newsreel daring, of necessity, was somewhat dampened. However, there were instances where their overzealousness gave away the location of positions which promptly brought the well known enemy barrage. Too, there were instances where they courted instead of filmed. All in all it was an affair made to their liking.

There were moments, too, when the war seemed mighty close to them. Like the time Reggie Lyons lived for three weeks in a dugout in the Argonne Woods. Even though forty feet below surface, he and his crew while living like animals in a burrow listened to the threatening whine of shells passing overhead. It was warm there, which brought a double quota of rats, vermin and other little what-nots. Here they stayed and existed on three meals a day of corn beef or "corn-willie," hardtack, and salmon or "goldfish."

Reggie had left Hollywood and in a month he was in San Mihiel. He was first with the 76th Division, which was a non-combatant division that supplied men when needed to other divisions. From the 76th he was transferred to the 79th and to the war. During the day, he shot such film as he could from holes in buildings, and from such other camouflaged vantage points where he dared to go. Late at night, he and his crew skulked forth in search of a new location. Through barbed wire en-

tanglements, stumbling over clammy things, through stinking mud holes, they searched for a position for their camera for the coming day.

Each sigh of the wind, each slight noise sent them scampering or made them hug the earth. There they would lie, hardly daring to breathe, while they hoped the enemy had not heard them. There they would poignantly await the tearing thud of an exploding shell. After a faltering reassurance that would come like a dawning day and with it an awareness of their surroundings, they found themselves, perhaps, face to face with what had once been a man, or perhaps, they had dropped into slimy mud. Then again they might have been fortunate and could scuttle on their way without first removing smelly mud or memories.

As they exposed their film, they sent it back by runner or motor cycle to Major E. J. Hardy in charge of the Signal Corps head-

quarters stationed at the Pathe Studio outside of Paris. About three weeks later, tests were returned to them that they might judge their exposure.

Though fifteen years have passed, recalling the episodes of the war brings a sombre expression to their eyes. Memories of the sizzling gas shell and its yellowish-white smoke, of the screaming flight and thump of large shells, the menacing whine of the lighter shell, of jumping from one "fox hole" to another with a large camera have left a stamp on the war cameramen. They more than just remember carrying a camera; a camera painted with zig-zag camouflaging. They may remember Harry Darmour's experience when he brought in his camera which had been scarred with machine gun missiles.

The second photographic branch of the army was connected with the air service. This branch was very closely connected with the business of the war. It was their duty to do the photographic reconnaissance. They photographed on the ground and from planes and observation balloons. From their photographs mosaic maps were made, which showed enemy positions, served in range finding, and indicated movement of troupes.

Photographers all over the United States had been mobilized at Madison Barracks at Sackett's Harbor and from there sent to the United States School of Aerial Photography at the Eastman Kodak Company for a period of training.

Here they had practically the run of Kodak Park, which consisted of 209 acres of buildings and 16 acres of park. The vine-clad buildings and park-like aspect of the place were a direct contrast to the subsequent experiences of the way. It was a contrast to the littered battlefield and to the mud hole in which Fred Archer sank to his knees. Two men had to pull him out and all three had to pull



Here a photographer stood during a gas attack and did his shooting with a camera.

*Photos from the James N. Doolittle collection.*



out his boots! The Baryta Building in which the Aerial School was quartered contained nine acres of floor space.

The attendance was kept at 600 and they were given five weeks in practice and lecture that compared with the concentration of college study. Here they learned to finish a picture from the exposed negative to the finished print in ten minutes.

In the meantime the Signal Corps divisions were being sent to the various colleges for their training.

At Madison Barracks, the photographers were taught to be soldiers. They marched. They hiked. They swept floors. And they kitchen policed. It was a process of hardening. Fred Archer tells of one hike they took to

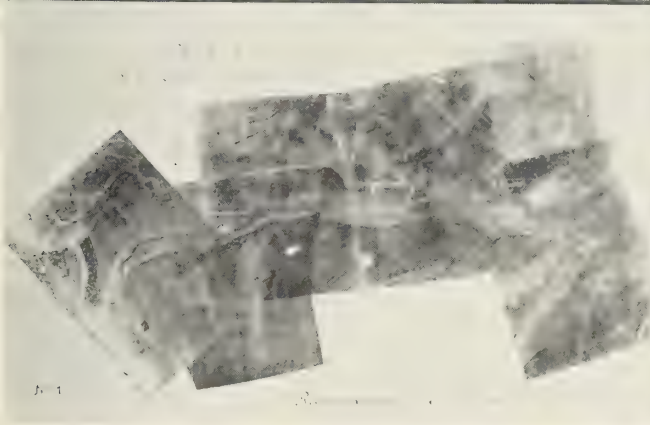
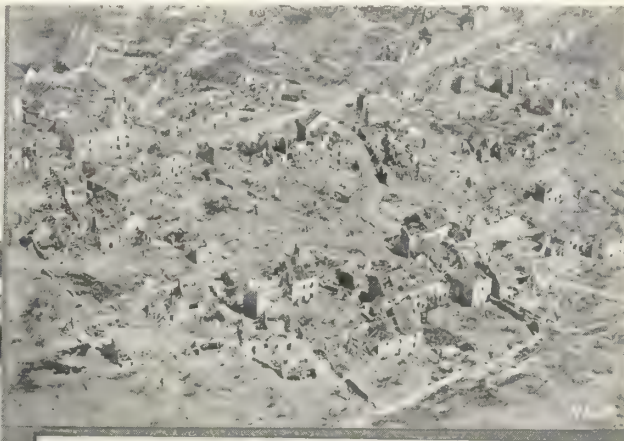
extensive publicity committee for the purpose of getting comforts. It was necessary. Side by side these statements are to be found grim reminders of things happening to human being across the "pond."

Of course, the hardening process of the American Barracks brought the "goldbrick" job hunting profession into national prominence. Lindsey Thomson says, "A 'goldbrick' was a man who would do anything to get out of work." Soldiers, one and all, lay awake nights figuring out ways and means of getting a soft job. Freddie Archer was a cartoonist for his division. Others were chauffeurs. Others went to hospitals. Still others sold Liberty Bonds. One of the prize winning go'd brick ideas was that of

A camouflaged Howitzer; a king during the war.



The Village of Vaux, France, after a bombardment.



A French mosaic map.



Remains of a German Fokker.

Henderson Harbor. Under much sun, a 40 pound pack, they hiked and forcedly joked for 22 miles.

In this group were many nationally known artists, writers, cameramen, and others. Imagine one of our present day cameramen or artists being required to hike 22 miles. They did it during the war and liked it. Their marches and activities were newspaper headlines. "The Barracks Observer," in the June 19, 1918, issue carried a headline, "Boys Enjoy Life at Photo School." One of the boys, "Alligator Bait" Stevens by name, is quoted as saying, "We certainly have a fine lieutenant. He is going to get us two canoes, and a piano, and a phonograph. You can see we are going to have plenty of entertainment." Often their dances and fun were attended after a day of military duties. Their feet, accustomed to office and autos, were raw and covered with blisters. But they danced!

The same paper announces the formation of a ball league and an orchestra; a band concert on Sunday and a minstrel show by citizens to make the war fun for the soldier. At this time the Madison Barracks formed an

having military funerals for the natives living near the barracks, so they might get a day off. Having relatives wire "Come home at once" was another. In fact there were as many ways of softening army life as there were photographers.

"Over there" the life of a photographer was different. They went about in motorized lorries. The lorry was equipped with a dark room to do the required photographic work. In it was the necessary equipment to develop negatives, print photos, and enlarge.

On the roof of the lorry was a water tank which gave a supply of running water. The water from roadside pools or village wells was pumped into this by means of a hand pump. The photos made by these photographers in their lorries played an important part in the war. Often during advances, pictures taken from the air were hurriedly finished and laid out on the ground in mosaic maps. Worn places in the vegetation or new earth showed the movement of enemy guns or men.

At one time a large enemy gun had been doing much



damage. It was finally located by means of photographs, but before the range could be gotten on it, during the night, the gun was moved. (It was again located by aerial photos because the enemy was careless while moving it and wore away some of the grass in its path.)

"Another photographic aid," says James N. Doolittle, today's noted pictorialist, "was the Hyper-Tele-Stereoscopy system developed during the war. It served to locate the low camouflaged emplacements that protected machine gun nests. By taking a pair of pictures from the air at the same altitude of the same point at a distance apart of about one-tenth of the altitude, a stereo effect was obtained. This type of photo would make trees look like wads of gum on a bean pole. It would give a great relief to low contours. German machine guns were placed so low they would rake the shins of advancing men; since a wounded man was a burden.

James N. Doolittle witnessed the last air raid over Paris. While the rest of Paris was scampering to cellars, he and his buddies who had just arrived in Paris, hurried to the roof in their underwear. It was a balmy September night, and a lazy breeze tugged at their B. V. D.'s and brushed their faces while they excitedly watched the giant fighting airplanes with tons of bombs glide above a breathless city. Everywhere was the rattling hell of anti-aircraft gun fire.

Next morning our James Doolittle caught "hell." General orders were that everyone should look for a cellar upon such an occasion. In fact, veterans did not need such an order. During the aerial raids the street lights in Paris were of a dark blue color and shop windows were either covered or were also of a deep blue that would not show from the air. No lights were permitted that would indicate the city's locations.

The cameras used in the Aerial Division in the War Zones were the French De Ram and de Maria and the Eastman Type L, which was semi-automatic (the latter being used almost entirely for instruction purposes.) All the negatives were on plates of either 18 by 24 centimeter or 13 by 18 centimeter. The emulsions were a special government coating made by Wratten and Wainwright and an Orthochromatic emulsion made in France, by the Lumieres. Though war time existed, great care was taken in getting good pictures. When necessary, filters of the K1, K2, K3 or minus blue type were used.

It is generally said the Italians got the best aerial pictures. Of the Americans, Captain Stevens is said to have gotten the best photos. About a year ago he further distinguished himself by photographing Mt. Shasta from an altitude of 18,000 feet. He had to use infra-red film and filters, which gave him a picture that otherwise was not visible to the eye. From this altitude he also pictured the curvature of the earth.

Even though the war was a serious affair, the photographers did not take it too seriously. Upon every occasion they found a moment to have a little fun or to lighten someone's else burden. Faxon Dean, with twinkling eyes, says it was just a big party. On every trip they carried their "eye wash." That eye wash, however, was not used on the eyes, but to doctor stomachs. It was French champagne.

Not a few of them spent months in hospitals after the war. Perhaps they needed a rest after the excitement of the Paris boulevards. Others went to hospitals from too close a contact with the business of the war. Reggie Lyons spent eleven months after the last of his three gas attacks. Faxon Dean spent five months after a plane crackup. Those are only two of the many instances.

Now comes Armistice Day! It was a day of jumping up and down and yelling. The photographers threw their cameras in the air, got their "eye wash" and then hugged

the Germans. Fred Archer gave them cigarettes. He was a "Kamerad." As far as the photographers were concerned, it was not their war and they would have liked to go to a German Beer Garden earlier in the war. To them it would have been a change from the French entertainment bill of fare.

After the Armistice many from the Photographic Divisions remained "over there" for the purpose of creating records for the War Department. They went into Germany with the army of evacuation to get pictures of conditions. They photographed the various divisions, parades, warfare equipment, welfare work, feats of plastic surgery and other things that would prove of value as records. These negatives, as were all war negatives, were transported to this country later and deposited at the War College in Washington. There were no negatives sent to this country during the war. Whatever appeared on the newsreel screen or press in this country during the war were from dupe negatives; the originals being held in Europe.

In Germany things happened to the photographers, and they caused things to happen to others. Wherever the Signal Corps went they were known as the "Mary Pickfords" because they were cameramen and incidentally movie-men. They had a large "P" on their arms, and either a DeBrie, Universal or a Bell & Howell under their arms.

Soap and cigarettes, or chocolate, were cherished items with all the natives of the war zones. Harry Thorpe, the one time ace cameraman for Kalem and now the photographer for the Los Angeles Police Department, was here and there with the 77th in Germany after Armistice; instead of money he carried about two dozen bars of soap with him in his musette bag. He would walk into a store and grin, then nonchalantly flop a cake of soap on the counter. The German tradesman's eyes would bulge and he would yell something or other to the living quarters in the rear. A rapid shuffle of feet announced his chattering frau and a number of his offspring. They would carefully pick up the soap and rub it, smell it, pass it around, and when thoroughly convinced it was soap the bargaining began. Harry Thorpe lived on the best of the land. He brought a few mementoes back, too! One was a brooch of fine craftsmanship. More than likely, besides the soap, Harry's big grin probably had a lot to do with his success in Germany. Charlie Boyle says, "That's odd, I thought they used perfume instead of soap."

Now that the war is fifteen years away it can be looked on tolerantly. The old members of the Signal Corps get together 200 strong each year to celebrate and reminisce. This get-together is held on Armistice Day each year. It generally starts in some big hotel in Los Angeles and finishes, etc. Their first meeting was held in 1922. This year members are expected from all over the United States. These meetings are largely made possible through the efforts of Pete Shamray, who was another that did his shooting with a camera. Shamray was a busy top sarge. Norman L. Spear and Al Kaufman, too, are active in the matters of this yearly banquet. Kaufman, by the way, was Major Hardy's assistant in Europe. Major Hardy was in charge of the Photographic Division of the Signal Corps while Col. Edward J. Steichen was in charge of the Aerial Division Photographers.

Some of the more noted of the 200 men of the Signal Corp are prominent in Hollywood. They are Vic Fleming, Ernie Schoedsack, George Hill, Larry Darmour, Farciot Edouart, Hal Mohr, Gus Peterson, Lynn Smith, C. R. Wallace, Joseph Von Sternberg, Johnny Waters, Alan Crosland, George Seigman, Wesley Ruggles, Ira

(Turn to Page 24)

# *Remarkable* EMULSION

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THE exceedingly fine grain of Eastman Background Negative easily meets the chief requirement of composite photography. But, in addition to minute grain this new negative has surprising speed and excellent processing characteristics. Exhibiting a rare combination of qualities, it stands out as a remarkable emulsion...one that is gaining in importance every day. You are urged to explore its wide possibilities. Eastman Kodak Co. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

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*Background Negative*



# MOTION PICTURE SOUND RECORDING

## Chapter III

By CHARLES FELSTEAD, *Associate Editor*



In the first and second chapters of this series, the basic principles of sound recording were discussed, so that they would form a groundwork on which to build up the more detailed descriptions of the various portions of the recording system that are to follow. Since the chief variation in the several recording systems is in the recording devices, rather brief descriptions of the recording devices employed by the different recording systems were given. Before beginning the study of the Western Electric sound recording system, we will digress from the subject long enough to review comprehensively the fundamentals of musical and speech sounds; for that is a field that has been sadly neglected in the magazines dealing with sound recording.

Throughout this series of articles, we will continue to speak of frequency, of cycles per second, and of audio-frequency amplification when discussing the electrical energy that corresponds to sound waves. In dealing with the sound waves themselves, it is necessary to refer to quality, intensity, pitch, double vibrations per second, overtones, and other words that have little meaning to the layman. Now we will see just what those terms mean and how they are related to each other.

### Characteristics of Sound Waves

Sound waves (which are referred to in non-technical usage as "sound") are produced by material bodies in rapid vibration. The strings of a harp or piano, the metal of a bell, the membrane of a drum, the vibrating reed of a mouth-organ, and the vocal chords of man are all bodies that vibrate and produce sound when plucked, struck, or subjected to a current of air under pressure. Gases, solids, and liquids may serve as carriers of sound; but a vacuum will not transmit sound. It is necessary that the vibrating body have a definite and rather sizable contact with the air, so that its vibrations can be readily transferred to that carrier medium.

There are three features, or characteristics, by which musical sounds can be distinguished from one another, and each depends upon some physical property of the sound wave. The *intensity* is dictated by the amplitude of the vibration, the *pitch* by the frequency of the waves, and the *quality* by the vibration form. These features of sound will be considered in detail later.

An oscillating body, such as a plucked piano string, vibrates to and fro at a certain characteristic speed that is the result of its length, density, diameter, and the

tension applied to it. Each complete to-and-fro excursion per second produces one *double vibration* or *dv*. Middle C, or C<sub>3</sub>, with its frequency of 256 dv, corresponds to 256 to and fro motions of a vibrating body per second. ("Orchestral pitch" assigns a frequency of 264 dv to middle C.) *Frequency* is the term for the rate at which the to and fro motion of the vibrating body is repeated, and is always given in seconds.

The intensity, or loudness, of a sound is governed chiefly by the amplitude of the to-and-fro movement of the vibrating body that is the source of the sound. Intensity refers to the energy present in the sound in the form of vibration, and depends on the amplitude of vibration of the waves. Thus, a tuning fork or piano string gives a louder sound when struck hard than when struck gently. The intensity of sound in free air varies inversely as the square of the distance from the source; but that law does not apply to confined places, where reverberation from walls adds its energy to the energy of the direct sound reaching the listener. In other words, in confined places the sound energy is concentrated instead of being dissipated in all directions.

The actual energy content present in normal sounds is so very small as to be almost unbelievable; and one of the greatest difficulties that faced research engineers was the design of a microphone that was sufficiently sensitive to respond readily to weak sounds. The intensity of the sound during the rendition of an orchestral selection often varies as much

as 100,000 to 1, which greatly complicates the construction of suitable recording equipment.

### *The Pendulum Analogy*

The simple pendulum of Figure 1 forms a good example of a vibrating body. If the pendulum bob is pulled to the point  $A$  and released, it will swing through its position of rest,  $B$ , to a point  $C$ ; then it will return through  $B$  to the point  $A$  (speaking theoretically—actually it will not return quite that far). The motion from  $A$  to  $C$  and back is called a *double vibration*. The distance the bob moves each side of its position of rest,  $AB$  or  $BC$ , is the *amplitude* of vibration. The length of time it takes the bob to make a complete double vibration is its *period*; and the number of complete double vibrations made per second is its *frequency*.

Now, in place of the pendulum, we will use the stretched membrane of a kettle drum for our example. When the membrane is struck by the drumstick, it

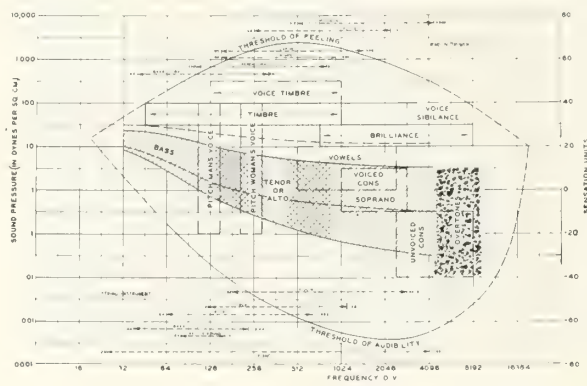


Fig. 4. Composite acoustic chart.  
(Courtesy Electrical Research Products, Inc.)

vibrates at its natural period, the center of the membrane moving in much the same way as the bob of the pendulum; but instead of swinging in an arc, it moves to and fro.

When the drum membrane moves forward in its vibratory movement, it compresses, or condenses, the air immediately in front of it. This pressure change moves forward through the air away from the membrane at a speed of about 1100 feet per second, the speed of travel of sound in air. On its backward movement, the membrane causes a rarefaction of the air in front of it, producing a low-pressure area that moves outward from the membrane and follows the area of compression. Thus, one complete to and fro motion of the drum head sends out an area of compression of the air followed by an area of rarefaction. This is illustrated crudely in Figure 2.

A stone dropped into water makes *transverse* waves which spread out in ever-widening concentric circles, the disturbance moving horizontally and the water particles oscillating up and down. But sound waves, such as made by the drum membrane, cause the air particles to vibrate to and fro in the direction of propagation, the wave front being *spherical*. So it is convenient to think of a sound wave as made up of alternate spherical shells of compressed and of rarefied air traveling outward in every direction at the speed of sound in air.

The action of the air particles and the manner in which they transmit the sound wave may be demonstrated by a long coiled spring that is suspended at one end from a hook. If the lower end of the spring is given a quick jerk, pulling apart the turns of the spring for an instant, the adjacent turns will be pulled apart, one after another, until the disturbance reaches the top of the spring. In the same manner that the metal particles of the spring return to their original positions after the passage of the disturbance, just so do the particles of air return to their places after the passage of a sound wave.

#### Curve Traced by the Pendulum

Figure 3 is a graphical representation of the motion of the pendulum. The movement of the pendulum to right or left is plotted vertically; and time is plotted horizontally. Referring to Figure 1, it will be seen that when the bob is at *A* it is at the top of its swing to the right. This point is marked *V* in the graph of Figure 3. As the pendulum bob swings toward *B*, it approaches its position of rest, which is represented by the zero line in Figure 3, but it also moves through an interval of time. The combined motion from right to left and through time is represented by the curved line *VW* of Figure 3.

The bob does not stop at *B*, its position of rest, but continues on to *C*, forming the line *WX* in the graph. It then return through *B* to *A*, which is now represented by *Y*, due to the progress of the pendulum through time. This motion is repeated indefinitely, resulting in a continuously curved line that follows the form given. A succession of such curves is known as a *wave train*.



Fig. 5. Sound wave formed by the combination of a fundamental tone (A) and its first harmonic.

This would be the case if the pendulum were given a little impulse of energy, or push, each time it returned to its original position, the amount of the impulse being regulated so it would be just sufficient to overcome the loss of energy by the pendulum through friction. The result would be a sustained motion of the pendulum.

Actually, if the pendulum were released and allowed to swing freely, each peak or swing of the pendulum would be a definite amount lower than the preceding peak, due to the loss through friction.

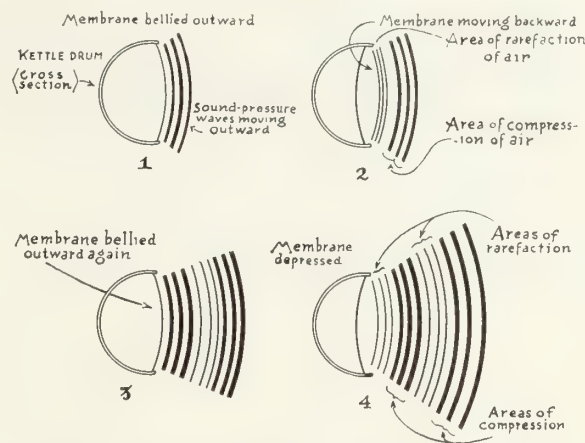


Fig. 2. Generation of sound waves by the vibrating membrane of a kettle-drum.

The portion of the curve of Figure 3 from *W* to *Z* is one *cycle*, or one double vibration; and if such a motion of the pendulum takes place once a second, the pendulum has a vibratory *period* of one second, and its *frequency* is one cycle, or one dv, per second. The *amplitude* of the motion represented by the curve is indicated by the distance from the horizontal axis (the line representing the position of rest of the pendulum) to *X* or *Y*. The curve is of the simple and symmetrical form known as a *sine wave*, which is an abbreviation of sinusoidal wave.

A curve having the shape of a perfect sine wave like that shown may be used to represent the sound wave generated by a tuning fork. In such a case, the peaks of the curve above the zero line, which for the pendulum signified motion to the right, would represent areas of compression, or condensation, of the air; and the peaks below the line would indicate areas of rarefaction of the air. In other words, when the membrane of the drum was bellied outward in its vibratory movement it would produce the peaks of air compression above the line; and when it moved backward, it would create the peaks of air rarefaction below the line. The zero line would represent normal air pressure.

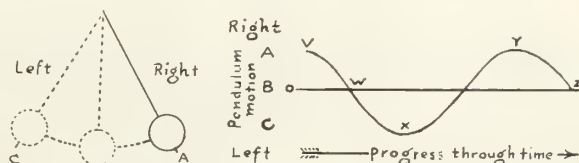


Fig. 1 (Left). Simple Pendulum. Fig. 2 (Right). The sine wave traced by an ideal pendulum.

#### Fundamentals and Overtones

A sound wave, even from a musical instrument, is not so pure as the sine wave shown. The middle C string of a piano has a *fundamental frequency* of 256 dv per second. A person hearing that frequency recognizes it for middle C, because he has learned to associate it in his mind with that note. That means that the fundamental frequency establishes the *pitch* of a sound. But besides generating this fundamental frequency, the piano string produces a great number of *overtones*, or *harmonics*, each of which is a multiple of the fundamental frequency.

The fundamental frequency is known as the first *component*, or *partial*. In the case of middle C, the fre-

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# LIGHT FILTERS

## FROM THE CINEMATOGRAPHERS VIEW POINT

By EMERY HUSE and NED VAN BUREN\*

A Series—Part V



When one considers the practical aspects of filter photography and studies the filters most commonly used in motion picture work, it becomes quite apparent that filtration is applied in a great many cases to alter the rendition of the sky in the scene. In considering the list of filters presented earlier in this article most of them are yellow, that is, they are blue absorbing. The increase in absorption from the Aero 1 to the G filter shows itself particularly in the sky rendering. Due to the relatively high total transmission of the Aero 1 relatively little filtration is accomplished. On the other hand, due to the relatively low transmission of the blue, particularly in the G filter, considerable absorption takes place with the result that in the negative a much smaller reaction takes place with this filter than with the Aero 1. Therefore, prints from these negatives made with a G filter show a much darker rendition of the sky. This same reasoning holds true with the use of red filters, and the deeper one goes into the red the darker becomes the final reproduction of the sky. If there are clouds in the sky, then naturally the separation between the blue sky and the clouds becomes greater the deeper the filter used. The cinematographer must choose between the degree of sky correction which he desires and the effect produced by the filter chosen upon the foreground in his field of view. Experience has shown that the G filter can be used very satisfactorily for both sky and foreground rendering, and does not produce "washed out" faces of any actors in the scene whether they are wearing make-up or not.

It should again be borne in mind that in these considerations of filters, their reaction in practical cinematog-

work, it is for this reason that attention is directed to sky and general foreground rendering rather than to the actual reproduction of colored objects in the field of view.

In the majority of cases the use of filters is confined to exterior photography and there are many scenes photographed in which there are actors wearing make-up. Make-up is so made to produce with the types of film and light sources available a pleasing photographic result. It becomes necessary, therefore, to make a study of the reaction of the film to make-up when filters are used under normal daylight conditions. To that end Figures 12, 13, 14 and 15 are submitted which represent exposures first without a filter, then with the Aero 2, G and 23-A filters, respectively. These photographs were made under a constant condition of daylight quality, all of the exposures having been made within a five minute interval of time. The unfiltered exposure was made at a lens aperture of F-5.6. The exposures through the filters were balanced to give equivalent exposures to the unfiltered shot by making use of the filter factors of the three filters used. The negative emulsion on which these exposures were made was Eastman Super Sensitive Panchromatic Negative. The negatives received the same development and the same grade of paper with subsequently equal development being used in making the prints. It will be seen that there is relatively little difference in the four shots as far as the facial rendering is concerned. The make-up used was the regular make-up for Super Sensitive film and was supplied through the courtesy of the Max Factor Company. It is difficult to observe much difference in the filter exposures, although a filter as deep as the 23-A is



Fig. 12



Fig. 13



Fig. 14



Fig. 15

raphy is uppermost in our minds. Therefore, one should read this article without giving too much consideration to true orthochromatic rendering. Since such rendering is not generally sought after or even desired in this type of

not usually recommended for close-up photography, we feel that were it employed it would not be detrimental to the pictorial quality.

The choice of filters for scenic effects rests squarely





Fig. 16 (Upper) Fig. 17 (Lower)

on the shoulders of the cameraman and it is up to him to determine the degree of effect which he desires to produce.

Figures 16 and 17 illustrate the results obtained by a small amount of filtration. Figure 16 was exposed at F-11 with no filter. Figure 17 was exposed at F-9 using the Aero 2 filter. A study of these two figures will reveal practically no difference in the foreground rendering, while there has been a noticeable change in the rendition of the sky and the clouds. These photographs were made on a day during which there was an appreciable amount of haze. The sky was of the type colloquially referred to as "washed out."

For a slightly greater degree of correction the G filter is commonly used. This filter shows a more pronounced filtering effect than the Aero 2 but not quite as strong an effect as the 23A. Prints are presented for the Aero 2 and the 23A. The G filter produces a dark sky rendering thus causing clouds to stand out in prominent relief. This filter does not over correct the foreground portion of a scene whether it be made up of landscape, street scene, or people. This filter can be used very successfully for most all types of exterior photography where moderate correction is desired.

An example of what might be termed exaggerated contrast is shown in Figures 18 and 19. Figure 18 was made at F-11 with no filter and shows the different cloud formations in the sky. These exposures were made on the same day as the previous example but from a different camera angle. Figure 19 was made using the 23-A filter at a lens aperture of F-6.3. It can be observed readily how much darker the sky is rendered and how much more strongly the clouds stand out in relief in the filtered ex-



Fig. 18 (Upper) Fig. 19 (Lower)

posure. Again attention should be called to the fact that the foreground suffers inappreciably. If filters which are deeper red in color than the 23-A, and consequently of greater absorption are used, more exaggerated contrasts can be obtained than those shown in this series of figures. It is recommended, therefore, that except for weird and strongly exaggerated effects, filters beyond the absorption limit of the 23-A be not used.

Another field in which filters are used extensively is that of marine photography. Very often it is desired to photograph water sequences so that the water appears much darker in proportion to the surrounding objects, such as boats. The choice of filters for this type of work depends upon the blueness of the water which is often governed by the blueness of the sky. Naturally if the water is very blue a deep yellow "G", or red filter 23A, will cause that water to be rendered quite dark in the print. If the water is muddy and reflects no blue sky, then such filters will not appreciably change the rendition of the water.

It is hoped that with the few examples which have been presented, together with the theoretical considerations, a little more light has been thrown on the general subject of the use of filters in cinematography. Practical examples cannot be shown to answer all questions which might arise in the minds of the readers of this article. However, it is felt that with the explanations given in the text a cinematographer desiring further knowledge of filter photography should be materially assisted.

In the October issue of *The International Photographer*, page 29, of the article on Light Filters, Part 4, the last line reads "must be used, for example, a red filter." This should read—"Must be used, for example, a blue filter."

## TWO LEICA FANS

Among the rabid and incurable Leica enthusiasts of Hollywood and vicinity is Frank Muller, of the famous Gasoline Twins, and "Doug," the unknown person who sits atop the Tire Totem Pole and never says a word. Who is this "Doug," anyway? He must be all right or he wouldn't be a Leica fan.

## DUPONT BUSY

Hollis Moyse, Dupont's West Coast representative, has just returned to Hollywood from a trip to the Dupont factory and their New York offices. He reports the film branch of the Dupont Company as having an unprecedented amount of business on hand at this time and the factories are working to full capacity.





# AROUND THE WORLD

With

## HERFORD TYNES COWLING

### SOME TRIBES OF CENTRAL AFRICA

#### Number Five

Walking sixteen hundred miles across Central Africa on a safari that took over six months brought me in contact with the most interesting tribes of that region. And since it was my objective to produce interesting films of these people and their customs I chose to walk because my route zigzagged back and forth into "tsetse fly" country—almost certain death to horse transport—motor roads would not take me to the regions I wanted to visit—and besides a native safari makes far better transport for pictures. In this installment I propose to show only a few of the various tribal types encountered on this trip.

Up from Mombassa, on the Red Sea, at an altitude of nearly seven thousand feet, is a vast tableland stretching across British East Africa, now known as Kenya Colony, and sloping down to Lake Victoria Nyanza, the source of the Nile in Central Africa. It was on this great veldt I encountered the Masai, the Nandi, the Wakamba and the Kukuyu tribes and, on the eastern shores of Victoria Nyanza, met the Kavirando.

Over on the western side of Lake Victoria lies Uganda, the people of which country are known as the Gunganda and, between Uganda and the Congo, on the eastern side of Lake Albert Nyanza, is a very small province known as Bunyore. Just across Lake Albert is the eastern edge of the Belgian Congo and here live the more primitive of the tribes I have encountered. The River Nile has its source near here at Ripon Falls, an outlet of Lake Victoria, from where it flows through Lake Albert and Upper Sudan.

It was about a week after we left Nairobi that our safari encountered the Masai people, most warlike tribe of British East Africa. Despite their fighting dispositions they proved very friendly to us and I was able to get many interesting scenes. They acted for me in good humor and with keen interest, if not with a great knowledge of just what it was all about.

Of course mine was not the first photographic expedition to visit this country by means, although most of the others were more intent on big game shooting than interested in the natives. But these people interested me greatly. In appearance they were good looking; their bodies tall and slender, their features good and their noses well defined.

I noticed the different ways in which they wore their hair and my interpreter explained that the women and married men shaved their heads and that it was the warrior group who wore their hair plaited into queues and left it to hang down their backs and over their foreheads.

The dress of the women is very much alike from youth to old age. They were clothed with dressed skins and leather petticoats. Beads, bracelets and ornaments of every description are popular with both sexes. They are, however, extremely filthy and appear never to wash themselves. This of course is to be expected of a tribe of nomads that live in desert country and have to de-

pend on sparsely distributed waterholes to water themselves and cattle nine months of the year.

To say the least their dwellings are original in architecture. The long continuous huts, called kraals, are about six feet in height and are built around the inside of a circular thorn fence called a boma. The roofs are flat and there is a compartment with a door for each family. The circular thorned bomas are necessary to keep out lions at night.

The warriors, during their period of service, live in separate villages. In past years they were armed with a very sharp steel spear, but in recent years the British have prohibited this particular spear because of the native warlike tendencies.

Milk, blood and meat form the table diet of this tribe, although the women and old men frequently have flour and vegetables. Tobacco and snuff are used by all except the warriors, but it is only the old men who are privileged to drink the intoxicating honey.

The Nandi is an East African tribe to which are allied the Lumbwa, Buret and Satik tribes as well as the Elgonyi of Mount Elgon. They are, however, more closely allied with the Masai.

The young men form a separate warrior class and seven and a half years are spent in this service. The ceremony of handing over the country from one age to the succeeding age is, to them, of extreme importance.

In addition to the usual weapons, spears, swords and clubs many of this tribe possess rifles.

All of the Nandis are divided into clans, each having its own sacred animal or totem.

There are no towns; each family lives on land it cultivates. The huts are alike and of circular pattern.

They believe their supreme deity, Asis, takes a benevolent interest in their welfare and, to this god, they address prayers daily.

Few of the African tribes bother to hunt wild animals for food or skins, preferring rather the skins and meat of the domestic cattle; however, the Wanderobo, an offshoot of the Nandi tribe, specialize in wild animal skins and particularly the giraffe, which they trap by driving them at full speed, running them into open pits, cleverly covered with sticks and earth. Here the animals are clubbed to death and their hides stripped.

Kavirondo is the general name given to two distinct groups of tribes, one Bantu and the other Nilotic. These people dwell in the valley of the Nzoia River on the western slope of Mt. Elgon and along the northeast coast of Victoria Nyanza. Both of these groups are immigrants, the Bantu having come from the south and the Nilotic from the north.

These people are known for their honesty and independence. They are agricultural and, in addition to sorghum and maize they raise, cultivate and smoke tobacco and hemp. Among their other industries are included salt making, smelting ore and basket work.

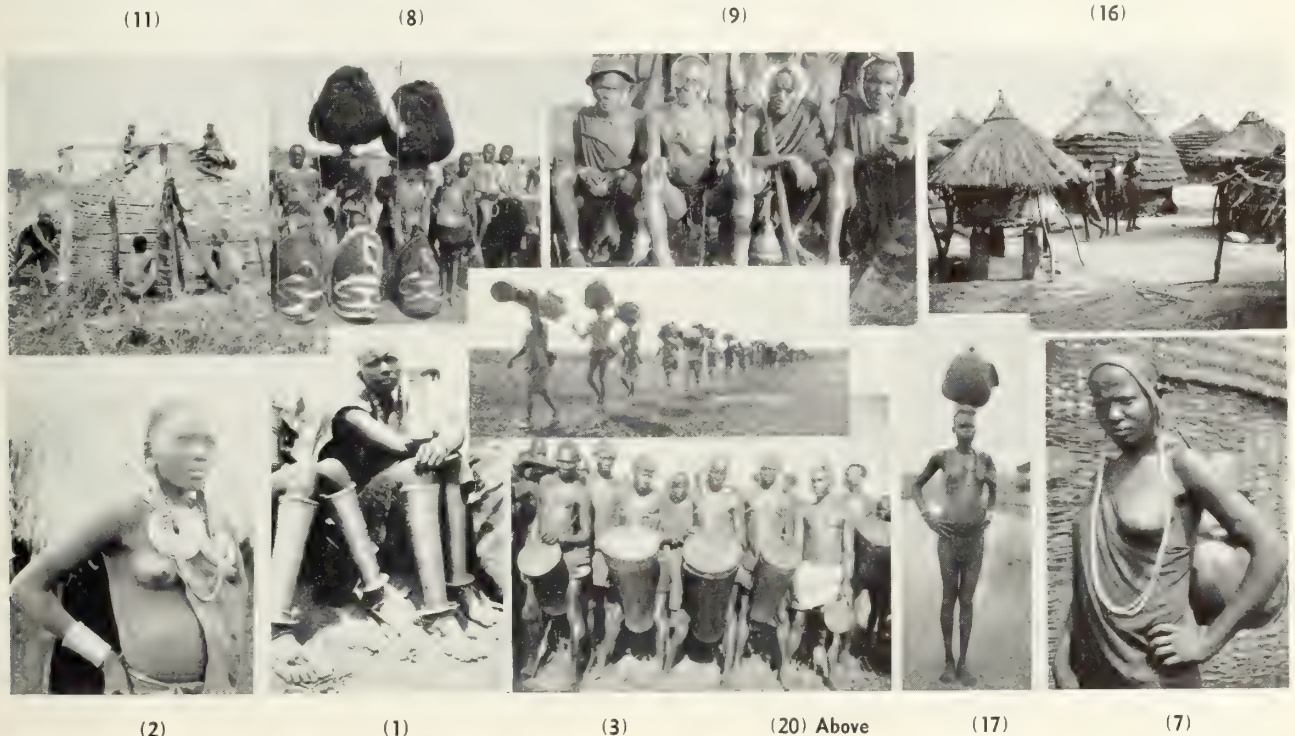
The women put scars on their bodies for various



reasons and a husband frequently cuts scars on the body of his wife, before starting on a perilous journey, to insure good luck.

The practice of disfiguring the women has long been a custom throughout many tribes of Central Africa. It is a holdover from the old days of slave raiding. Arab slavers would swoop down on a native village, and while the men often were either absent or able to get away, the large percentage of hostages would be women.

The Arabs would select the finest specimens from among the younger women as their personal captives and consequently the natives gradually adopted a custom of disfiguring their women to discourage the Arabs from taking them as slaves. This disfiguration in time became so inherent as a custom that it continues today. It takes the form of slitting lips, knocking out teeth, greatly enlarging ear lobes, binding heads and burning and slashing the breasts.



No. 1—Women of the Masai tribe, Kenya Colony (British East Africa). Note the "hole proof" sleeves and stockings made of heavy brass wire, in a spring-like fashion. These are decorations worn constantly and never removed except to increase the size as they grow older.

No. 2—A woman of the Nandi tribe, first cousins of the Masai and living in adjoining country of East Africa. Note the heavy spiral ear decorations which are fastened to a greatly enlarged ear lobe by heavy leather straps.

No. 3—Wakamba drummers about to start a dance. Although the Wakamba men are the best workers the British can employ, they demand frequent holidays, when they dance cross-country dances, traveling as much as twenty miles in a day during the dance.

No. 7—Kikuyu woman with milk gourd suspended on her back by strap from her head—thus all loads are carried by the native women of East Africa.

No. 8—The Kavirondo are a very vain tribe. The men like to dress up in their old time warrior costumes and have a spear throwing contest.

No. 9—They go in for all kinds of amusing head decorations. The third from left is wearing two hippo tusks to frame his physiognomy.

No. 11—The natives of Uganda build the roofs of their homes first, later elevating the roof to build the house below.

No. 16—A native village of the Upper Sudan. The houses are chiefly of straw, mud and sticks; the small elevated shack on the left is a granary where the surplus food is kept from mice.

No. 17—The women of the Sudanese (upper Nile) are very strong, sturdy individuals; they carry loads of water and grain on their heads and they have an extra fine physique as compared to other tribes of Central Africa.

No. 20—My main safari on the march—180 porters were required to move the entire equipment and supplies of my party.

## IS THE SILENT FILM DEAD?

(By a Colombo Cinegoer)

(An East Indian View in "Sound and Shadow," Madras)

Every cine-goer, every producer and every cinema owner was under the impression that with the advent of "talkies" a new era with a bright future had dawned on filmdom. As time goes on new needs arise and Tennyson's lines, "The old order changeth," are not an exception to the general rule. Unlike Western film magnates, the film producers of India, who recently became master of Indian silent films, turned their attention to the production of "talkies." "Silent films are dead. They will rise no more," was the echo that sprang from everywhere. But it was quite wrong. Still there is a mass and class appeal for silent films and their demand is greater than that of the "talkies."

The English language is a common language known to more than half the world. American producers, who produce "talkies" in English, would not be hard hit by the prevailing depression, as there is still a world-wide demand for them. But it is quite inappropriate to pro-

ducers in India at a time like this when the whole world is in economic bondage. A Gujarati, Marathi, Hindi, Urdu or Bengali talkie would only appeal to the section in which that language was spoken.

A Sinhalese or a Tamil, a European or a Burgher will never understand or appreciate such "talkies." Every nation cannot understand a talkie produced in a language other than English. Although many cinema enthusiasts prophesied that with the advent of "talkies" silent films would be at an end, this has never come to pass.

The silent film is still at the top of the ladder, with all its glory and splendor. In Colombo, I should not say of the suburbs, there is a certain section which appreciates a silent film more than it does a "talkie." Whether he be a Sinhalese, Tamil, Burgher or a European he understands everything, viz.: Love, romance, thrills, excitement or danger. It would be a great folly if the producers were to entirely direct their thoughts towards the production of "talkies" when "talkies" are not the kind of films every nation wants. In years to come the demand for silent films will be greater and producers will have to turn again to the old order.



# NEW TELEVISION SERVICE INAUGURATED

Television has taken a new and significant step forward, it is revealed in the announcement of "full-length feature" broadcasts of movie film by the Don Lee television transmitters W6XS and W6XAO, Los Angeles.

By virtue of the new schedule, full length Paramount features, and preview trailers, now become part of the regular transmission schedules of the television stations, in addition to current Pathe newsreels and close-ups heretofore comprising the television fare of W6XS and W6XAO. This is more program material than has ever before been transmitted by any television station in the country.

Cecil B. De Mille's "This Day and Age" and "The Texan" starring Gary Cooper, were the first features to be televised under the new set-up.

"Although all television is as yet experimental, motion picture producers with an eye to the future are cooperating with us in the expansion of our television service," said Harry R. Lubcke, director of television for the Don Lee Broadcasting System. "Since the Federal Radio Commission has ruled it experimental, the transmission of featured material is prefixed with the prescribed phrase, 'These visual broadcasts are experimental.'"

The new service marks a distinct advance in television perfection. In addition to closeups, outdoor scenes and full length shots are received with surprising clarity. A certain newsreel contained shots of a women's swimming meet in which it was possible to see the various contestants dive into the water and swim in their respective lanes, and to notice a white-shirted official follow them in a rowboat.

These images were received three and one-half miles from the transmitter under regular home receiving conditions, and represent a much closer approach to commercial television than the demonstrations which are being held from room to room in a laboratory, or upon the stage.

Accurate identification of film subject-matter, has been reported by lookers as far away as Santa Paula, fifty-five miles airline from the Don Lee Building, Los Angeles, the receiver operators recognizing such objects as pictures on the wall of a room. Other reception reports include accurate and useful data on signal strength, of great help in television research continually being carried on by the Don Lee engineers.

During the last two and one-half years that the stations have been operating, over 4,000,000 feet of motion picture film has been shown. This is believed to be the largest television footage exhibited by any station.



VERNA HILLIE, Paramount featured player, being shown a tube from the Don Lee television transmitter W6XS by Harry R. Lubcke, director of television of the Don Lee Broadcasting system, on the occasion of the broadcast of the first of a regular series of Paramount features now being transmitted daily by the Don Lee television stations W6XS and W6XAO, Los Angeles. Cecil B. DeMille's "This Day and Age" and "The Texan," starring Gary Cooper, were the first features to be televised under the new set-up.

Both W6XS (1000 watts, 2150 kilocycles or 140 meters), and W6XAO (150 watts, 44,500 kilocycles or 6¾ meters) are now operated from 7 to 9 P. M. nightly; and on Monday, Wednesday and Friday mornings from 9 to 11, transmitting images of 80 lines at 15 frames a second.

W6XAO occupies all of its three licensed bands on the morning schedules, using, in addition to its 44,500 kilocycle frequency on Mondays, 66,700 kilocycles or 4½ meters and 49,400 kilocycles or 6 meters on Wednesdays and Fridays, respectively.

Data on the construction of a television receiver for reception of these broadcasts will be sent to those sending in a stamped, self-addressed envelope to the Television Department, Don Lee Broadcasting System, Los Angeles.

## THERE AIN'T NOTHIN' NEW

According to some fine old sales literature, recently unearthed by Delmar Whitson, from forgotten archives, the radio was old stuff as far back as 20 years ago.

In those days, 1913, the United States Telephone Herald Company was organized to broadcast at a cost of five cents a day, by separate and distinct wire system, every kind of entertainment, news matter, music, vaudeville, base ball, markets, financial, bed time stories, special announcements, speeches, language lessons, outline of daily news, special sales, etc.—and this service was available from 8 A. M. to midnight.

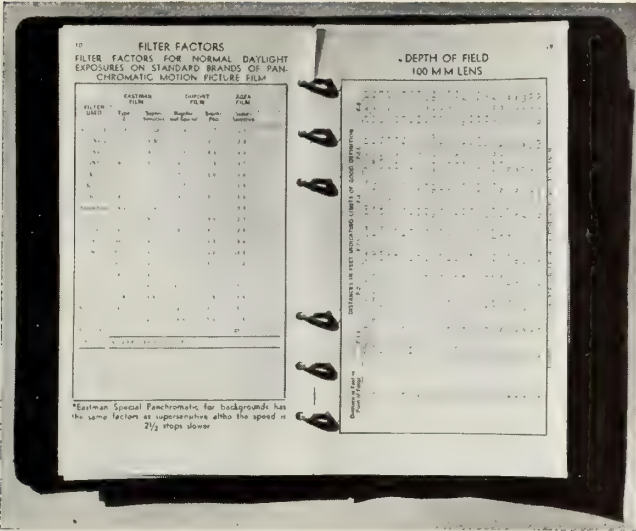
The United States Telephone Herald Company had a newspaper of its own, broadcasting studios, microphone, concert rooms, auditorium, etc. Everybody who listened

in had to be equipped with an ear phone, but who could object to that at a net cost of five cents per day.

The announcer was called a stentor (remember the herald in the Iliad?) and he introduced the artists just as in these days except that there was one full minute between each two numbers.

In 1913 the Oregon Telephone Herald Company, associate company of the United States Telephone Herald Company of New York, was organized for service at Portland, Oregon, Royal Building, F. S. Doernbecker, president.

And listen—it was installed anywhere without expense to the subscriber.



This is the seventh installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's BOOK of TABLES

By FRED WESTERBERG

There are several more installments to come, concluding with the January issue, 1934, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 15; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 15 and 16. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index unless others are added.

2512-B

## PROJECTION 35 mm. FILM

WIDTH OF PICTURE OBTAINED IN PROJECTION WITH  
DIFFERENT LENSES AT VARIOUS DISTANCES FROM  
THE SCREEN

Width of Picture on Screen In Feet	DISTANCE IN FEET FROM PROJECTOR TO SCREEN						
	3-inch Proj. Lens	3½-in. Proj. Lens	4-inch Proj. Lens	4½-in. Proj. Lens	5-inch Proj. Lens	6-inch Proj. Lens	7-inch Proj. Lens
4.0	14	17	20	22	24	29	34
5.0	18	21	24	27	30	36	42
6.0	22	26	29	33	36	44	51
7.0	25	30	34	38	42	51	60
8.0	29	34	39	44	48	58	68
9.0	32	38	43	49	54	65	76
10.0	36	42	49	54	61	73	85
11.0	40	47	53	60	67	80	94
12.0	44	51	58	65	73	88	102
13.0	47	55	63	71	79	94	110
14.0	51	60	68	77	85	102	120
15.0	54	64	73	82	91	109	128
16.0	58	68	78	88	97	116	136
17.0	62	72	82	92	103	124	144
18.0	65	76	87	98	109	131	152
19.0	69	81	92	103	115	138	.....
20.0	73	85	98	108	122	146	.....
22.0	80	94	106	119	133	.....	.....
24.0	88	102	116	131	146	.....	.....
26.0	94	110	126	142	.....	.....	.....
28.0	102	119	136	153	.....	.....	.....
30.0	109	128	146	.....	.....	.....	.....
32.0	116	136	.....	.....	.....	.....	.....
34.0	124	144	.....	.....	.....	.....	.....
36.0	131	153	.....	.....	.....	.....	.....
38.0	138	.....	.....	.....	.....	.....	.....
40.0	146	.....	.....	.....	.....	.....	.....

Based on Standard Projection Aperture .600 by .825 of an inch.

## TIME-APERTURE UNITS

Aperture Units × Time Units = Time Aperture Units

VARIOUS COMBINATIONS OF F-VALUE  
AND TIME OF EXPOSURE EXPRESSED IN TIME-APERTURE UNITS

Exposure in Time- Aperture Units	F-VALUES REQUIRED FOR VARIOUS UNITS OF TIME								
	1 Time Unit 1/100 Sec.	1.5 Time Units 1/67 Sec.	2 Time Units 1/50 Sec.	3 Time Units 1/33 Sec.	4 Time Units 1/25 Sec.	5 Time Units 1/20 Sec.	6 Time Units 1/17 Sec.	8 Time Units 1/12.5 Sec.	10 Time Units 1/10 Sec.
1	16.0	19.6	22.6	27.8	32.0	35.8	39.2	45.2	50.7
2	11.3	13.8	16.0	19.6	22.6	25.3	27.7	32.0	35.8
3	9.2	11.3	13.1	16.0	18.5	20.6	22.6	26.6	29.2
4	8.0	9.8	11.3	13.8	16.0	17.9	19.6	22.6	25.3
5	7.2	8.8	10.1	12.4	14.3	16.0	17.5	20.2	22.6
6	6.5	8.0	9.2	11.3	13.1	14.6	16.0	18.5	20.6
8	5.6	6.9	8.0	9.8	11.3	12.6	13.8	16.0	17.9
10	5.1	6.2	7.2	8.8	10.1	11.3	12.4	14.3	16.0
12	4.6	5.6	6.5	8.0	9.2	10.3	11.3	13.1	14.6
16	4.0	4.9	5.6	6.9	8.0	9.0	9.8	11.3	12.6
20	3.6	4.4	5.1	6.2	7.2	8.0	8.8	10.1	11.3
24	3.3	4.0	4.6	5.6	6.5	7.3	8.0	9.2	10.3
32	2.8	3.5	4.0	4.9	5.6	6.3	6.9	8.0	9.0
40	2.5	3.1	3.6	4.4	5.1	5.6	6.2	7.2	8.0
48	2.3	2.8	3.3	4.0	4.6	5.2	5.6	6.5	7.3
64	2.0	2.5	2.8	3.5	4.0	4.5	4.9	5.6	6.3
80	1.8	2.2	2.5	3.1	3.6	4.0	4.4	5.1	5.6
96	1.6	2.0	2.3	2.8	3.3	3.6	4.0	4.6	5.2
128	1.4	1.7	2.0	2.5	2.8	3.2	3.5	4.0	4.5



NEW OPTICS FOR LEICA CAMERA

E. Leitz, Inc., announces a new fifty millimeter lens, the Summar f:2, which possesses important characteristics. This lens, due to a revolutionary optical design, produces needle-sharp crispness, even when used at its widest aperture. Because of this, it is not to be confused with the so-called "speed lenses" which sacrifice sharpness and definition for the sake of speed. It may therefore be used as an "all-purpose" lens on the Leica, for when stopped down, its sharpness and depth remain normal as is customary with the more normal lenses.

The Summar f:2, 50 mm. lens is hailed as a new objective of rare qualities, and has already been accorded unusual popularity. Its value under unfavorable lighting conditions can be well imagined.

A new 135 mm. Wektor lens is announced with the Summar lens. This lens is identical to the Elmar lens of the same speed and focal length, but its lens design is quite different. It possesses a remarkable flatness of field and color correction, hence is a valuable lens for those who require these qualities.

Both the new Summar and Wektor lenses may be obtained in the regular or chromium mountings. The Summar comes in two styles, one a fixed or rigid mounting, the other in collapsible form like the other 50 mm. Leica objectives.

SOMETHING NEW IN CLOUDS

Amateur photographers and home movie experts who experience difficulties in obtaining certain cloud effects will undoubtedly be thrilled when they see the photography in the screen version of "Smoky," filmed near Flagstaff, Arizona, by Fox Film.

In reproducing photographically the beautiful clouds and sunsets, for which that country is noted, Daniel Clark, cinematographer of the picture, used a combination of light filters never before attempted by any photographer.

Although the various scenic effects appear beautiful to the eye, it is extremely difficult to register them in their proper values in black and white on the screen. By means of certain filters Clark has reproduced nature's wonders as nearly as can be done without the use of color film.

For instance, during the filming of the rugged country around Sedona Valley, where the colt, Smoky, was born, red was the predominating color and red to the photographer ordinarily means black. In the finished picture these cliffs appear white, thus making it possible to distinguish between shadows and highlights.

"Smoky" was adapted from Will James' novel and the cast includes Smoky, Victor Jory, Irene Bentley, Hank Mann, LeRoy Mason, Frank Campeau and others.

EXPOSURE TIME OBTAINED  
AT VARIOUS CAMERA SPEEDS AND SHUTTER OPENINGS

EXPOSURE TIME		CAMERA SPEED IN PICTURES PER SECOND									
Time Units		1	2	4	8	12	16	24	32	48	64
Fractions of a Second		REQUIRED SHUTTER OPENING IN DEGREES									
1/2	1/200	...	...	...	15	22	29	43	58	86	115
3/4	1/133	...	...	11	22	33	43	65	86	129	173
1	1/100	...	...	15	29	43	58	86	115	173	230
1 1/2	1/67	...	11	22	43	65	86	129	173	...	...
2	1/50	8	15	29	58	86	115	173	230	...	...
2 1/2	1/40	9	18	36	72	108	144	216	...	...	...
3	1/33	11	22	43	86	129	173	...	...	...	...
3 1/2	1/29	13	25	50	100	151	202	...	...	...	...
4	1/25	15	29	58	115	173	230	...	...	...	...
4 1/2	1/22	17	33	65	130	195	...	...	...	...	...
5	1/20	18	36	72	144	216	...	...	...	...	...
6	1/16.7	22	43	86	173	...	...	...	...	...	...
7	1/14.3	25	50	101	202	...	...	...	...	...	...
8	1/12.5	29	58	115	230	...	...	...	...	...	...
10	1/10	36	72	144	...	...	...	...	...	...	...

PROJECTION  
16 mm. FILM

EFFECT OF VARIOUS MAGNIFICATIONS ON THE  
BRIGHTNESS OF THE PROJECTED PICTURE

Size of Picture On Screen In Inches	Screen Magnification In Diameters	Relative Brightness of Screen Image at Various Magnifications Light Constant	Relative Light Required at Various Magnifications for Constant Screen Brightness
Horizontal Projection			
9.0 by 12	31.6	1000	10
9.7 by 13	34.2	861	12
10.5 by 14	36.8	735	14
11.2 by 15	39.5	641	16
12.0 by 16	42.1	564	18
13.5 by 18	47.4	443	22
15.0 by 20	52.6	360	28
16.5 by 22	57.9	297	34
18.0 by 24	63.2	250	40
19.5 by 26	68.4	213	47
21.0 by 28	73.7	184	54
22.5 by 30	79.0	160	63
24.0 by 32	84.2	140	71
25.5 by 34	89.5	125	87
27.0 by 36	94.7	111	90
28.4 by 38	100.0	100	100
30.0 by 40	105.0	90	110
33.0 by 44	115.8	75	134
36.0 by 48	126.3	62	160
39.0 by 52	136.8	54	187
42.0 by 56	147.4	46	218
45.0 by 60	158.0	40	250
48.0 by 64	168.4	35	284
54.0 by 72	189.5	28	360
60.0 by 80	210.5	23	444
66.0 by 88	231.6	19	538
72.0 by 96	252.6	16	640

Based on Projection Aperture .284 by .380 of an inch.

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SUPERSENSITIVE  
**PANCHROMATIC**

**J. E. BRULATOUR, INC.**



# WHAT HAS HAPPENED TO COLOR?

By MILTON MOORE

Ye Editor of The International Photographer put me on the spot. He printed in the October issue of his magazine a notice to the effect that in the next issue one "Milton Moore, our color expert, will tell what is the matter with color."

Now, no guy can call me names and get away with it. Here is where I take the genial Silas Edgar Snyder for a ride. I am going to try to tell "What is the matter with color" and the answer isn't what our editor expected to print in his technical magazine.—The Author.

## WHAT HAS HAPPENED TO COLOR

For years and years color photography has been trying to crash into the picture studios. Not until 1929, when she teamed up with a new boy friend who taught the movies to talk, did she get a break. What happened to our heroine in those days is just another tragic Hollywood story. She fell by the wayside and since there are no good Samaritans in the movie capital, she is still there.

But all is not lost. Three brave little pigs have come to her rescue and heroically are trying to put her on her feet again. It's a big job, kiddies, a big job these fearless little piggies have undertaken.

The trouble with color is not that prevalent and popular alibi "depressionitis"; it's simply a hangover from the good old party days when "inflationitis" brought on a severe attack of enlarged ego and high blood pressure. The parties who directed the destinies of color at that time thought they had the moving picture world by that part of the anatomy named after a certain city in Nebraska. They did—but color didn't! She has now passed into a coma complicated by an inferiority complex, run-over heels and subnormal S. A. In addition to these minor diagnostic symptoms, she is in disrepute and has been branded. Burned into her schoolgirl complexion is the dollar mark, which is the Manhattan Indian sign meaning "Taboo" in any language.

The mysterious circumstances surrounding her birth may have something to do with the persistent hard luck which has pursued my lady color through all her hectic career. Technically speaking, color is the illegitimate offspring of black and white, an old time team who originated the cinema (nickelodeon to you.)

Color is synthetic. It has never been discovered as a direct process. Chemists have searched for years for a substance on which colors could be directly photographed *in color* and subsequently reproduced by printing. Such a discovery would, of course, be the answer to the color researchers' prayers—if any. But since no wizard of the test tube or master of the fourth dimension or even the party who understands Einstein's theory, has come forward with such a process, it looks as if we would have to struggle along on the familiar bootleg brand.

The two synthetic processes known to date are the additive and subtractive. In both the picture is first completed through the black and white stages and then converted into color. The myriad difficulties encountered in such conversions are the chief technical things which are the matter with color and accounts for both the indifferent results and high cost. To discuss the respective merits of these two processes is to open an old Hollywood argument (like what sort of men prefer blondes—and why) and might end in violence. Let it pass!

In '28 and '29 when sound came to the screen and transformed the "movies" into the "talkies" it brought along a new type of entertainment in the form of the musical extravaganza. Here was an ideal set up for color. Producers made an honest and expensive effort to break out their dancing choruses in a manner befitting the occasion. They tried color and they report that increased production costs were not offset by box office returns.

This was a natural reaction on the part of the cash customers. They refused to be fooled. They had been looking at Dame Nature so long they knew natural colors were not limited to the blue-green and orange-red which they saw on the screen. Color failed to draw over pictures of the same type released currently in black and white and sound. So died the two-color phase of sound pictures. All of which is a sad state of affairs, for producers have gone sour on the whole color family and have been consistently giving all of us film dunkers the run around.

Color is dead—Long live Color!

Here comes Mickey Mouse's papa with a brand new three-color Technicolor process which he is plugging through the land. In the hands of a master cartoonist and clever entertainer like Walt Disney, color has again crashed into the headlines. Here is a combination that is not only paying dividends, but has the erstwhile color-blind cash customers standing on their seats yelling for more.

Dame Rumor whispers that this process which is now limited to cartoons will be made available for productions of all classes. Meantime the rival color companies are taking nothing for granted and the quest for cheap three color goes merrily on. The main objection to all these schemes is that the addition of the third color complicates the same old synthetic process of conversion from the black and white. Two color—two negatives; three colors—three negatives, and the further difficulties of superimposing three images on the print.

Color is in the process of evolution and can't make up its mind whether it wants finally to emerge as a he or a she—additive or subtractive. But one thing is certain. When this chromatic person comes out of the laboratory she must be completely rejuvenated—not simply a good cosmetic repaint job. She will have to face the world in a new coat of raiment which looks like a million and costs a nickel or she will get slapped right back into oblivion. She must emerge like the new-born butterfly breaking free of the cocoon, resplendent in all the colors of the well known rainbow.

There are dozens of experimenters working toward this end. I doubt if there is a cameraman in Hollywood who can't reach into that dark recess located between his ears and pull out a theoretically perfect (and secret) answer to color photography.

Some of us can even go one better. If you aren't constantly on guard we will back you into a corner and hold bits of vari-colored film before you until you go cock-eyed. We always end up by explaining that if we could only get some producer to help out—

Moving picture studios are not proving grounds for technical experiments. Producers maintain what is proba-

bly one of the most unique and expensive research laboratories in the world. Millions of dollars are spent in discovery and development of talent for the screen. They scout the world over from Oshkosh to Timbuctoo searching for a comedian who can wiggle his ears a bit funnier than the other guy, or a new beauty from "over there" who can say, "I go home now" in a new dialect. If they make a wrong guess on potential starring material it's just too bad.

It is the business of the executives of any manufacturing concern to buy raw material, convert it into a salable product and sell it. The raw materials which come to the moving picture plant are human emotions both in the flesh and in the script. These must be woven into entertainment. Color is valuable in this weaving process only to the degree in which it will enhance the sales value of the finished product. Up to date color has failed in this particular—failed because of technical imperfections, because of increased costs and because it lacked box office appeal. Since the last two are the effects of the first, which is the cause, why bring them up? Search me. Let it go—let it go!

Color is condemned to the guillotine, the gallows and the electric chair, but save your tears, folkses, it shall not die, for the simple reason that there is money in it.

To establish premises for that statement it will be necessary to indulge in one of those Hollywood reviews and reel back a couple of sequences until we get to reel No. 1, which lands us back in the days when our negative stock was limited to orthochromatic. *There* was a film! It refused to see anything but white or blue light and paid only slight attention to the rest of the colors. It was entirely blind to the passionate appeal of red, placing it in a class with black, which in the mathematics of light is zero.

Orthochromatic negative was the cameraman's pal. Along about three P. M. we used to fold up the works with a curt "Gotta quit now, the light's gettin' yellow." We struggled along with this alibi stock for a long time. Our compositions photographically were distinctly black and white. Contrast was the order of the day. Translate all this into music and you have the effect of a pianist massaging the keyboard from end to end and getting response only from high C and low G—or something.

In those days we used to train our lenses optimistically on a California landscape with its blue-veiled mountains standing against a deep blue sky in which majestically floated billowing white clouds. But all we got on the screen was a landscape which might have been anywhere, for our blue-veiled mountains, blue sky and white clouds were not there. They had photographed as one, just a blank wall of white.

Then the manufacturers of raw film gave us panchromatic negative stock. They had been making this type of film for still photographers for a long time, but it was considered too tricky for the cinematographer who must take photographic conditions as he found them. The makers recommended that the new negative be used cautiously and only on special jobs and that it be used with a filter designed to give a certain effect.

We were warned that Panchromatic was *color sensitive* to the entire solar spectrum, especially to the red. Every cameraman in movieland fell ill with a bad case of the "jitters" and our photographic world was turned topsy-turvy. We had to forget the blue sensitive negative and face new problems presented by the red sensitive panchromatic. Gradually we found out things about the new film and the mountains, sky and clouds began to take their proper places in the scheme of things. On panchromatic film we could photograph *colors* in their respective monotone values.

Then came sound. The old sputtering arc lights we used with the orthochromatic film got on the mixer's nerves and had to go. We were forced to use the silent incandescent lamps on the set and because these lamps gave out a yellow-red light we were forced to use panchromatic negative. Since that time the color range sensitivity of the panchromatic film gradually has been broadened. The recent introduction of a new type panchromatic with a practically perfect "color separation" has vastly increased the subtle influence of monotone shading, present in the original subject in color, and has made monotone reproductions *more natural*.

What has all this to do with color?

Oh, that is just an unique way of explaining that every individual in the motion picture racket from manufacturers of raw stock through the production staff down to the laboratory technician has been, and is now, intent upon transferring colors to the screen in tones of black and white and greys.

In characteristic moving picture fashion we have been saying all along that we haven't any satisfactory color process and couldn't use it if we had, because we don't like color anyway. And all the time we have been employing every device of the art and science of photography to perfect the black and white and bring it as closely as possible to color. We have, in fact, put color on the screen—in black and white. We have gone as far as we can with the monotone medium. The next step is COLOR.

We will now introduce again our pianist of Act One. He has grown long hair. He has become more artistic. He plays with feeling. He romps up and down the keyboard, hitting them all. There are no blanks. He's got the ivories under control at last and he "goes to town" with a popular melody. But he isn't getting anywhere. He's standing on the soft pedal with both feet!

So what?

The new day of color is on the horizon. It must struggle to the zenith through a great bank of black and white storm clouds from which come thunderous rumblings which sound very much like someone grumbling about production costs.

The new color of the near future will be an all-color process; simple and fool-proof. It will require no new cameras or projectors. It will cost more, but not

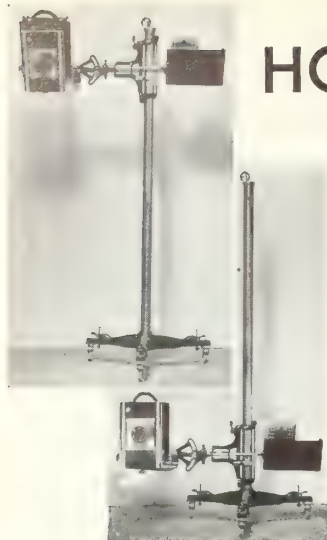
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## THE ASSISTANTS TALK IT OVER



"Did you see Mae West's new picture?"  
"No, did she have one taken?"





# HOW TO MAKE A CAMERA-STAND

By JAMES N. DOOLITTLE

Camera Stand Adapted from X-Ray Apparatus.

Left—Frontal elevation of unique studio equipment showing camera raised to maximum height (about six feet). Note that the extension bracket permits the camera to be tilted about an axis perpendicular to the supporting column. For leveling purposes it may also be adjusted laterally.

Right—The very same thing in position for low-down photography. The knee-chest position is recommended as the proper posture for peering into the groundglass! The lens is about twenty inches above the floor.

At a quick glance, this might appear like another of my sparkling wise-cracks until I go on to say that I have no idea that the method of making a camera stand presents difficulties to any of you. Especially is this true of the older men who have been making camera stands for years. In fact you have made many of them stand for altogether too much.

More to the point, I should have made this head read: "How to Make a Stand for a Camera"—a portrait or commercial camera, in this case. One should be less frivolous in technical matters; so we get on with the description.

In a late article—several weeks late—I ventured the information that no one had up to that time developed the ideal tripod and that I should straightway do something about it. I did, or, in a manner of speaking, have done just that thing and, if the tripod isn't exactly the conventional legged contrivance which holds up the familiar still camera, it is because my somewhat unconventional requirements prompted me to get tricky about it and make something more exactly suited to my still unconventional nature. Besides the thing is actually tri-pedal—not three-legged, to be etymologically accurate.

Let me digress right here while calling your attention to the article in which I made known my determination to do something about the tripod matter and take a verbal swing at our Editor. You know how these editors are—you write a perfectly ducky piece of technical literature, headings and everything, hand it in to him, who hasn't much to do, except paste the stuff in a dummy every month and shoot it to the printers, and he has to add a quip of his own right out in front so it will be sure to engage your attention.

He did that to my article about that three-color camera I made and said that I utilized spare parts purchased at Woolworth's.\* There are laws about slander, libel, bearing false witness against thy neighbor or something, under which even an editor should be made to cringe before the bar of Justice—if it's the only bar he can locate—for making such unguarded statements. I did make the camera in my garage, just as he let me say, but as for obtaining the parts in Woolworth's—why, a pox upon him!

Now I'll tell you about the camera stand. You see I run a sort of photographic studio where one has to make all kinds of pictures for these ads which you see—or do you—in the magazines and newspapers. The peculiar aversion which art directors have against stuff

being photographed from the point of the unaided human eye makes it necessary to select the "unusual" angle for nearly everything one shoots. Now a tripod, be it ever so adaptable and versatile in an acrobatic sense, severely cramps one's creative style by reason of its inherent instability when one wishes to point the camera heavenward or in a direction radial to the center of the earth. "Up" and "Down" if you want it in non-technical terms. Nor is the regular type of studio stand adapted to any useful purpose except as an article of furniture. It looks impressive and imparts an air of general well-being to the atelier.

I've known all this a long time without being able to do much about it. So, as I said a moment ago, I'll tell you about the stand and how you too, gentle reader, may be just as well equipped as I.

By reference to the pictures herewith (which is the only reason for publishing them) you will probably guess that I didn't make the thing at all but merely adapted a piece of apparatus designed for an entirely different purpose. Right; that's exactly what I did.

Acquisition of the main elements of this camera stand is the simple matter of going to the Victor Electric Company—branches in all principal cities\*—and ask for a complete X-ray installation. Of course you'll get a lot of non-essentials—transformers, insulators, cable, fluoroscopes, etc., but one never knows what to leave out because things have a way of becoming tremendously useful when least expected. Among other things there'll probably be a "tube" or two. Just why they're called tubes will stump you when, in a general way, they more closely resemble gold-fish bowls. But don't let it get you down. You can, in fact, break off one of the cylindrical protuberances and actually use it as an aquarium or crocheting something on it and use it for a Christmas present.

As you look over the ton or two of hardware, it will gradually occur to you that there is a lot of stuff which has but little bearing on the case and proceed to lay it by. All except the shiny upright column on three feet and little wheels which is to become the hero of the story. This, too, is equipped with an abundance of fittings which probably have some real function in roentgenological work and these, as soon as their usefulness has been detected, may be put by. Mainly, the residue will then be represented by this shiny pole firmly implanted vertically in the heavy castings forming the base, and a sliding bracket consisting of a number of loose-coupled arms and shoulders. Hang on to these for they are to become very useful members of this unique accessory. Way out on the end of the limb, you'll see an aluminum plate with a hole in the middle of it which was intended to hold that "tube" so it could be suitably adjusted over one's chassis when one's innermost recesses were being scanned. It is of absolutely no use here so may be safely given to the children to play with and lose if possible. In place of this thing, fit a flat piece of Dural equal in size to the bottom of the camera upon which it is ultimately to rest and of such gauge as to form a firm support. Quarter inch stuff is adequate. With a hole through this for the regular tripod screw, the thing is no longer an X-ray stand but the best piece of laboratory furniture yet conceived.

It will be found that the camera has at last become a wonderfully flexible instrument, will rise and fall at

\*I hereby affirm that not one cent was paid to me for this testimonial.

\*It was Kress'.

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## THE NEWSREEL WORLD

By RAY FERNSTROM

Home again! The more I see of other places, delightful as some of them are (especially Sweden) the more I love California and good ole Hollywood.

### *Across the North Atlantic*

The beautiful white Drottningholm sailed with your reeler from Gothenburg the sixteenth of September. Ahead lay New York.

As all old travelers do, I almost immediately sought out the dining salon steward to secure a small table, alone in a corner, for my meals. As usually results in such cases of lone gents, when lunch was served I found myself at a bachelor table. There were five of us. Each eyes the other suspiciously after the formal Swedish introductions. Each steps up to the table already occupied by some of the others, bows and speaks his name. The others arise, bow and speak their respective names.

The liquor steward comes for orders. Each orders according to his taste—Kron, Renat, O. P. or Overste. These are, as my readers might guess by now, the Snapps, akvavit, plain appetizing potato alcohol. Strange as it may seem, the man facing me was returning to the States with a large load of empty akvavit bottles. Upon questioning, he explained that these were sample bottles to use for display. When the Eighteenth Amendment is repealed the real FULL bottles will be on their way. So he paid for the first round of appetizers.

The next man was a Swede, a real honest-to-goodness baron, but also a regular guy, and one that the whole gang immediately took to. After a few days we had

all laid aside titles (described in earlier installments) and he became plain Eric. The man at the head of our table, a rotund, happy Swedish Jew, became Bubblan and the cheer leader of the mess.

Alongside of me sat a young man whom we dubbed Snobble; as for me, I become Kalifornia Pelle. Together we drank and played ourselves into forming a trans-Atlantic sea rovers' club. The Drottningholm became the sea going club house and the cheerful Red Bar the meeting place. Some of the members were so reluctant to leave that cheerful salon that they even had the good natured barber shave them there.

### *Across America by Bus*

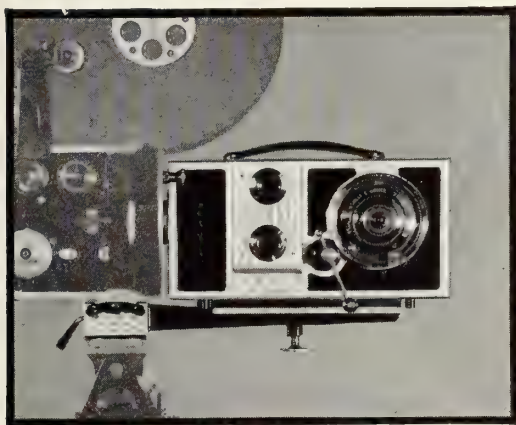
Others travel West by plane, and some by train, even others via the canal on boats, but your newsreel friend came West by bus, one of those doggy Greyhounds. I had heard many tales of long distance bus travel, the bouncing, the lack of sleep, changes, etc., so I was tempted to try it.

On looking over the bus transportation situation I received one pleasant surprise after the other. First, the price, \$39.75 for the journey from New York to Los Angeles. Bear that in mind, for the show en route is worthy twenty times that price without even considering the ride. It was one human interest story after another, but let me try to start from the beginning.

When I say from the beginning, let's start with the beginning of the Greyhound Lines. You can imagine my surprise when I met Mr. Walker, the manager, to be told that this great transportation system was started by a SWEDE, Erick Wickman, to be exact. When I heard that I knew at once where I had seen

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## B & H Cooke Varo Lens



*B & H Cooke Varo Lens in photographing position on the Bell & Howell Camera.*

## BELL & HOWELL COMPANY

1849 Larchmont Ave., Chicago; 11 West 42nd St., New York; 716 North La Brea Ave., Hollywood; 320 Regent St., London (B & H Co., Ltd.). Estab. 1907.

NEVER before has there been a "zoom" lens anything like the Bell & Howell Cooke Varo lens in its speed, quality of definition, and ease of use. At F 3.5 the range is from 40 mm. to 50 mm.; at F 4.5, from 40 mm. to 85 mm., and at F 5.6 and F 8 the full "zoom", from 40 mm. to 120 mm., is obtainable. Adjustable stops provide for limiting the "zoom" as desired.

One crank controls all moving parts. The iris is varied automatically with the focal length to keep the *f*/ value constant. Close focusing is done with auxiliary lenses. Write for full details. Sometimes available on rental to responsible studios.

### *B & H Cooke F-2 Speed Panchro Lenses*

B & H Cooke F 2 Speed Panchro Lenses were designed, for today's studio requirements, to focus the blue and red rather than the blue and yellow rays. This was so successfully accomplished that the lenses are almost apochromatic. They have replaced practically all others in the leading studios.

Made in eleven focal lengths, from 24 to 108 mm. B & H Cooke F 2.5 Panchro Lenses offer the same remarkable correction. At considerably lower prices they meet many needs where their speed is adequate. Seven focal lengths from 35 to 162 mm. Write for details and prices.



# Hollywood's Allied Industries

## THE TROPICAL FILM COMPANY

La Compania Nacional de Cinematograficas de las  
Republicas de Guatemala y El Salvador

The main studio of this company will be established at Antigua, Guatemala, among the ruins of the old capital of Don Pedro de Alvarado. A subsidiary company will be established in the city of San Salvador in the Republic of El Salvador. These two studios will be administered by a group composed of the officials of the two governments and the cinematographic engineers who are members of this company.

This venture has been approved by His Excellency, the President of the Republic of El Salvador, General Maximiliano Hernandez Martinez; the Honorable Minister of Foreign Relations, Doctor Miguel Angel Araujo and the Honorable Minister from El Salvador, Senor Don Roberto D. Melendez. For Guatemala, His Excellency, the President of the Republic of Guatemala, General Jorge Ubico; the Honorable Ministers of Foreign Relations, Public Education, and Agriculture. The Honorable Minister from Guatemala, Senor Doctor Adrian Recinos; the Honorable Consul General, Senor Doctor F. Marquez, Jr., and the Honorable Senor Doctor Frederick Waller, Consulado of Guatemala at Los Angeles, California. All of these esteemed gentlemen have supported this company and the success of the venture is due to their kind efforts and co-operation.

Productions will be made under the supervision of the technical staff of this company which is composed of technicians from the five I. A. T. S. E. Locals of the Motion Picture Industries. Themes for pictures will be from the books of James Churchward, "The Lost Continent of Mu," "The Children of Mu," and "The Symbols of Mu." Dramatic talent will be native Central Americans.

Additional stories, not of an archaeological type, will be produced from literary works by Spanish authors and special attention will be given to keep these productions wholly Latin in character and treatment. Musical scores for these pictures will be from ancient manuscripts now in the National Conservatory of Music of Guatemala and from native tunes which have never been written or recorded.

An expedition will be organized which will seek out and photograph the lost race of Quetzales who are a race of people white of skin, blue eyed and with golden hair. Many unknown species of animals, birds and reptiles will also be photographed. A complete series of short subjects dealing with these subjects will be made for release in the United States.

Equipments for these two studios will be purchased in Hollywood and installed by the members of this company who will also install and initiate a system of Visual Education in the schools and educational institutions of the two Republics aforementioned. Efforts will also be made to establish in Los Angeles a Tourist Bureau in which still and motion pictures will be kept for rental to commercial societies seeking information on Central America.

When the studios are established native Central Americans will receive instruction in motion picture technic from the cinematographic engineers of this company and will be permitted to operate the studios under the supervision of the membership of I. A.

It is planned to make these studios complete in every respect and to operate them under the patronage of the two Republics.

## WHAT DO YOU KNOW!

By PHIL TANNURA

There have been so many of the boys of 659 writing me to find out what the chances are for working in Europe and the conditions, that it has tempted me to write the following, so that anyone contemplating a jump overseas will know what is in store for him. At the present time it isn't so difficult as it was three or four years ago, when I first arrived on this side of the Atlantic. But to know these things won't do anyone harm. So here goes—wrack your brain and see if you are eligible. Do you know:

1. The mechanics of a camera, Mitchell, Bell & Howell and De Brie?
2. What kinds of motors are used on cameras for silent and sound (cycles, revolutions, phases)?
3. About different specimens of negative film?
4. Filter combinations and values under different lighting conditions?
5. About lighting equipment and costs?
6. Workings of a laboratory?
7. Back projection shots and plates combined?
8. Miniature shots?
9. How to ship film and insurances?
10. Custom duties?
11. Contract guarantees and foreign income taxes?
12. Foreign languages?
13. Working permits for different countries?
14. Value of different currencies?
15. Passport regulations?

All these things are taken care of in Hollywood for you, but if you were on your own could you overcome these difficulties without the aid of Hollywood?

Four Acres of Automobile Service

CAMERAMEN'S HEADQUARTERS

*Muller Bros.*

Distributors for Philco Transitone Radios

"WORLD'S GREATEST SERVICE STATION"

6380 SUNSET BLVD., NEAR CAHUENGA, HOLLYWOOD



WALT



FRANK

### VICTOR'S BIG ORDER

Victor Animatograph Corporation broadcasts the important news that Victor has closed with the Agricultural Department for 105 Sound-on-Film, 16 mm. Animatophones to be used for educational projects, among them the instruction of the 300,000 young men who are in the 1440 camps of the Citizens' Conservation Corps. Let Victor tell the rest of it:

... It is believed that the views of President Roosevelt himself had a great deal to do with the final issuance of the order to proceed with the original plan of using motion pictures to expedite the job of properly instructing the Citizens' Conservation Corps in conservation work.

Inasmuch as the films to be used for this purpose were already in existence, having been produced by the Department of Agriculture for previous educational projects, projection equipment offered the greatest problem in connection with actual application. Quite a number of the available films are without sound and, although sound is being recorded as rapidly as possible for these subjects, provision has to be made for silent as well as sound projection.

It was necessary, also, that the equipment be easily portable and adaptable to a variety of operating conditions, as each projector will be constantly moved around a circuit comprised of about 14 camps.

The fact that operation and care of the equipment was to be entrusted to inexperienced camp members (to be especially selected for the responsibility) required an equipment incorporating extreme simplicity and great durability, as well as utmost efficiency.

Last, but not least, economy of cost and upkeep was a factor of major importance. The Department had a job to do and a limited appropriation with which to do it.

There was only one answer: 16 mm. equipment. The question was whether or not there was available an equipment that could unconditionally meet each of the several requirements.

Bids with detailed specifications were mailed. Exhaustive tests were conducted. The order was placed—for 105 Victor Model 12B Blimp Type Sound-on-Film Animatophones. Delivery has been practically completed.

If the reader harbors the opinion that Uncle Sam is a slipshod buyer or the easy prey of unscrupulous salesmen, let him try selling the Department of Agriculture a motion picture projector!

The equipment that can weather the merciless criticism, the brutal treatment and the incessant prodding

and testing and running of a Department of Agriculture buyer should, by all rights, be inscribed with the motto: "I can take it."

### MONARCH SOUND PROJECTOR

An installation of Monarch Sound Projectors of the improved type has just been completed at the Elysian Theatre. These machines replace two of the earlier models that have seen fifteen months of trouble-free service. The Monarch Sound Projector is the development of Frank Arrousez, inventor of the highly-satisfactory Laco Light, who acts as sales manager for the Monarch Sound Corporation, which will soon move its offices to 5951 Santa Monica Boulevard. This projection machine is built entirely in Hollywood and Mr. Arrousez claims it to be the last word in mechanical refinements. The Monarch Sound Corporation will specialize in the construction of sound projection equipment, with "Ultra Dependable" for its motto.

CHARLES FELSTEAD, *Associate Editor.*

### THE KO-OPERATIVE KOMMISSARY

A group of the bachelor boys of the International Photographers have organized the Ko-operative Kommissary with club house at 6683 Lexington Boulevard, Hollywood.

It is a non-profit organization, the principal feature being the culinary department which, for the time being, will be under the direction of Tod LeCledé, who is a chef of experience.

The Kommissary opened Monday, October 30, with twenty odd members on the roster and a menu that delighted all the cash customers. A great success is forecast for this new departure.

### SCREENCRAFT AGAIN

George Meehan reports the completion of another big Screencraft production by Al Alt and Sam Katzman, working at Alexander Bros. Studios and under direction of Fred Neumeyer. The cast included Boots Mallory, Phillips Smalley, J. Darrow, Frankie Darrow, Paul Hurst, James Flagin. Another production will be started at once.

### "RUDY" MOVES

R. Geraus, (Rudy) expert in foreign made cameras and for many years a pioneer in the photographic supply field, has opened a complete photographic department at the headquarters of the Camera Supply Company, 1515 Cahuenga Avenue. The trade is cordially invited to visit Rudy in his new emporium.

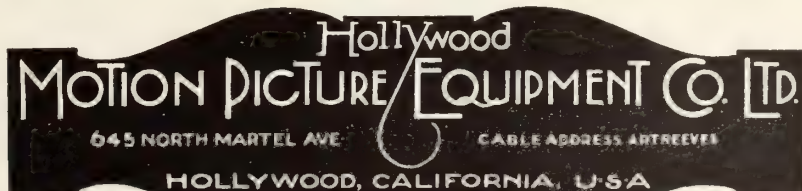


## "ArtReeves" DEPENDABLE SOUND RECORDING AND LABORATORY EQUIPMENT

Demandez nos brochures illustrées, escomptes, et conditions.

Sirvanse pedirnos el catálogo ilustrado, descuentos, y condiciones.

Send for illustrated Catalog, prices and particulars



Phone: WYoming 4501



## WEST TO PARADISE

(Continued from Page 2)

Waimea Canyon, with a depth of three thousand feet from the summit, and with its varied rich coloring, gave us opportunity to add to the romance of our story. This canyon is like a miniature replica of our Grand Canyon of the Colorado.

After the serious side of our story was told in these surroundings we journeyed on to the eastern and northern coast around the edge of the island through Lihue, Kapaia, Anahola, Kalimiwai, Honalai and Haena. There are no cross roads and very few trails, due to the precipitous crests of mountains and deep wooded ravines. At a point on the island directly north, Kailuaea, the government has established a lighthouse which is one of the largest of its kind in the world. Its guiding light in all kinds of weather is visible many miles out to sea.

At Hanalei is the ancient harbor that gave shelter to the old North-Pacific whaling ships in the days of that industry, for it was here that supplies could be taken on, including quantities of fresh water, and the crews could not desert. From here on to Haena are many beautiful summer homes with the finest bathing beaches to be found anywhere in the Pacific.

And for the sportsman who likes game fishing, no better place than these waters can be found. In the mountains back of the Napali cliffs excellent sport is afforded the trout enthusiast and to those who would stalk the wild boar and mountain sheep these mountains are alluring.

For the golf enthusiast there is no finer course than Kukuiolona Park. Here in the invigorating heights, breathing in the fresh air of the sea, he can drive across his eighteen holes in the morning, lunch at the clubhouse, then drive another eighteen with his opponent, satisfied that he has played across the finest green fairway in this Dream Island of Paradise. Aloha!

The writer and all members of the Seven Seas expedition extend thanks for extraordinary courtesies from J. R. Senda, official photographer of the Island of Kauai and also from the officials of the hospital at Waimea.

## THE PHOTOGRAPHER IN THE WORLD WAR

(Continued from Page 6)

Morgan, Gordon Hollingshead, Jack Wagner, Blake Wagner, William Hamilton, George Marshall, Eddie Snyder, William Williams, James C. Brown, John Swain, Felix Schoedsack, Wardel Bell, B. E. Loper, John D. W. Lambert.

Of course there were many men who were prominent as photographers in Hollywood before the war, but they wanted a vacation so they signed up by flipping a coin. Charlie Boyle signed up in the Quartermaster Corp because he had heard they were in charge of the eats. He says "Imagine my embarrassment, when I found myself in a Motor Truck Company as a Sergeant with 44 other sergeants and only nine soldiers. In my trip across the country no one died or jumped off the train even though they only issued us two worn out sandwiches on the way. It was 24 below across country and I lost consciousness, but I was thawed out after I arrived." Charlie Boyle is famous as the soldier who had the best time of any when he was not doing Kitchen Police; too, he is noted as the best Rue finder and because he did not find out until after the war that his gas mask was not a pillow. He was in gas attacks, but he did not take them seriously. He had "hardly any liquor."

But the war is over!

## MOTION PICTURE SOUND RECORDING

(Continued from Page 9)

quency of 256 cycles per second is the first component, as well as the fundamental. Twice that frequency, or 512 cycles, ( $C_4$ ) is the first harmonic, or second component. A note of 512-cycles frequency is said to be an octave *higher* than middle C; for when two notes have frequencies as 1 to 2, the relation, or interval, is called an *octave*. The second overtone of middle C is 768 cycles (three times 256); and the third harmonic is 1024 cycles, which is one octave above 512 cycles or two octaves above middle C. A note whose frequency is 128 cycles is one octave *below* middle C; for the frequencies of the two notes bear the relation 1 to 2. This octave relationship is demonstrated by the frequencies marked along the bottom edge, or *abscissa*, of the composite acoustic chart of Figure 4.

The overtones have varying degree of intensity; and they add their energy to the fundamental frequency, giving the musical note a recognizable characteristic, which is variously termed *quality*, *brilliance*, or *timbre*. It is this characteristic that makes it possible to differentiate between the notes of a violin and a piano even though the notes are of the same pitch. How the overtones combine with each other and with the fundamental frequency is illustrated by Figure 5.

Here a simple sine wave and its first harmonic are represented by the dotted lines,  $A$  being the fundamental sine wave. The resultant wave is shown by the solid line. It was obtained by adding algebraically the positive and negative pressure values of the dotted waves, considering all sub-normal pressures below the zero line as negative. Since the dotted components cross the horizontal axis together at certain points, they are said to be *in phase* at those points. Actually, sound waves are much more complex than this because they contain more than one harmonic and the components are not necessarily in phase.

### Characteristics of Human Hearing

The average human ear is able to perceive sounds having frequencies between the limits of twenty dv and 20,000 dv per second. This is the audio-frequency range, twenty to 20,000 cycles per second; and a vacuum-tube amplifier designed to amplify that range of frequencies, or a portion of it, is termed an audio-frequency amplifier. It is this division of the frequency spectrum with which we are concerned in sound recording and reproduction. Sounds that are of low frequency have a low pitch, or low tone; while high-frequency sounds have a high pitch. An irregular sound having a wave form that is an uneven, non-repeating curve is classed as a noise; but a sound that traces a uniform and regular curve is termed a musical note. However, it must be mentioned that the demarcation between them is not precise.

In the chart of Figure 4, the pressures of sounds in dynes per square centimeter are plotted as ordinates against frequency in dv per second as abscissas. A logarithmic scale is employed for sound pressures because, due to the peculiar structure of the human ear, equal intensity steps on a logarithmic scale sound approximately like equal steps of loudness. (The Weber-Fechner law.) In other words, if the physical intensity of a sound of certain pitch is increased ten times it will sound twice as loud—if it is increased 1000 times it will sound four times as loud as the original sound.

Any sound having an intensity below that of the curve on Figure 4 marked "threshold of audibility" will not be heard by the average person; and any sound having an intensity above the curve marked "threshold of feeling" will be felt as an actual sensation of pain be-

cause of its excessive pressure. Thus, a sound having a frequency of 512 cycles and a pressure of less than about 0.001 dyne per square centimeter will not be heard by the normal person, and a sound of that frequency having a pressure above about 3000 dynes per square centimeter will be felt as pain. That represents a pressure change of 3,000,000 to 1. Sounds of that frequency having pressures, or intensities, between those limits will be perceived by the ear as being of varying degrees of loudness.

#### *Recording Range*

The average pitch of man's voice is 128 dv, and that of woman's voice is just one octave higher, or 256 dv, as may be seen in the chart of Figure 4. Man's speech has twice as many tones as woman's; but in both, overtones of the fundamental chord occur. Frequencies as high as 8000 dv exist in certain speech sounds. It is desirable to record up to and including at least the fourth harmonic of a tone, because if a reasonable number of overtones are not present in the reproduced sound, the quality, or timbre, will be impaired. The fourth harmonic is two octaves above the fundamental tone, *i. e.*, the fourth harmonic of 512 dv is 2048 dv. It is the absence of sufficient overtones in the recording that causes certain types of sound equipment to produce sound records of such poor quality.

It will be noted that the frequency ranges of various musical instruments are given in the acoustic chart. The greatest frequency range of any instrument is possessed by the organ; but the piano, with its range of 26 dv to 4096 dv, and the harp, are a close second. If quality sound recording and reproduction is to be accomplished, *at least* the first overtone of musical notes must be recorded. That means that the sound apparatus must be capable of recording frequencies up to not less than 8192 dv, or cycles, if the first overtone of the highest note of the piano is to be recorded. Sixteen to 10,000 cycles is the range the ideal recording system should possess.

The frequency of the note sounded by the whistles of Atlantic liners is around 100 to 150 dv. The buzz of a mosquito is at the upper end of the scale; for it has a frequency of about 7000 dv. So if a sound system will reproduce these two types of sound faithfully,

it undoubtedly has a frequency range that is satisfactory for all normal requirements.

If frequencies much below 8000 cycles are eliminated in recording, the hissing characteristic of speech termed "sibilance" is lost. This is most readily detected by an impoverishment of the two fricative or sibilant consonants *s* and *z*; for most of their essential frequency components lie above 5000 cycles. If only those frequencies below 6000 cycles are recorded, the interpretation of the *f*, *s*, *th* (*through*), and *z* of woman's voice are impaired.

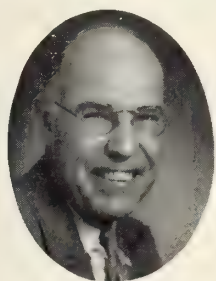
#### *Musical Instruments*

Musical instruments may be classed as wind or string instruments, and those classes may be further divided into harmony and melody instruments. Harmony instruments produce several notes simultaneously; melody instruments usually produce one note at a time. Wind instruments are subdivided into brass-wind and wood-wind instruments. Either type of wind instrument may use a reed or a cupped mouth-piece, but they all employ an air column as a resonator.

The saxophone, bugle, cornet, and trombone are examples of brass-wind instruments. In the saxophone, the length of the air column is varied by opening holes in the tube, which is equivalent to cutting the tube off at the hole. The bugle has a fixed air column, and is played by the vibrating lips of the musician acting as a reed, their vibration setting up waves in the air within the tube. Only the fundamental and about five overtones may be produced. The length of the resonant air column within the cornet can be changed in fixed amounts by means of pistons; while the air column of a trombone is varied by sliding a portion of the tube in and out. Horns and tubas are equipped with valves, or stops.

The wood-wind instruments include the clarinet, flute, oboe, and the like. In the clarinet and flute the length of the air column is broken up by means of holes, after the fashion of the saxophone. The organ is a wind instrument, the current of air being provided by a mechanical blower. The wave length of the air column is determined by the length of the organ pipe (from about two inches to twenty feet in large organs) and

(Turn to Page 28)



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The "Movieflood," big brother to the popular "Photoflood" lamp, produces approximately 68,000 lumens of



light of maximum photographic effectiveness. (A lumen is the amount of light necessary to illuminate an area of one square foot to an intensity of one footcandle.) Its size is the same as that of the 1000-watt lamp used in general lighting service, 6½ inches in diameter and 13½ inches from top to bottom. It is designed to operate on voltages from 105 to 120 inclusive, and at 115 volts has a design life of 15 hours. It has a mogul screw base, a clear glass bulb, and can be burned in any position.

High-powered, high-efficiency lamps such as the "Movieflood" have a tendency toward bulb-blackening after a period of service. To overcome this characteristic, the new lamp contains a quantity of cleaning powder which, when the lamp is shaken, removes the blackening and restores the clearness of the bulb.

## NEWSREEL WORLD

(Continued from Page 21)

that shade of blue combined with white that is the standard coloring of the busses. Every street car in both Stockholm and Gothenburg, Sweden, carries those colors and has carried them for many years before the bus became a reality. Little did Wickman think back in 1914 that his one little bus would be the forerunner of 1500 large busses covering the United States from coast to coast, border to border.

Leaving the Capitol Greyhound Terminal in New York we rush down Eighth Avenue and before we know it we are in another bus station. This one is back of the Pennsylvania Station, but we merely pause there. After a short count of a hundred our big buggy drops down the incline into the Holland tunnel, called Holland after the man who planned it.

At our first big stop the fun began. One lady asked the operator for her bag, but couldn't tell the man whether her bag was brown, black, large or small. Another woman wanted to know if our operator wouldn't please turn left at the next corner and drop her off at her doorstep. He was forced to politely explain that the franchise granted public carriers limited them to certain routes through cities.

How I sympathize with those bus drivers, or operators as they are called. If they as much as get a scratch on their bus they lose the bonus for safe driving that is an incentive for even more careful operation of these safe vehicles. Just think of rules that make a bus driver liable even if some dumb cluck drives his wrecked flivver near enough to scratch the paint on one of those blue highway giants! And yet, good reader, there are men on those busses who have not had a single mark against them for periods of six years and more, men who operate a run of two hundred miles a day and much of it in traffic, too. Makes another fellow feel less proud of his driving ability. In all the long trip across our wonderful United States I couldn't find a single driver who did not wear at least one or two badges of merit for safe driving and many of them had three and four. No trouble for me to sleep on account of the driving of a single bus, and we got a new bus almost daily and a new driver every two hundred miles, depending on the kind of run.

They certainly have that organization well in hand, as if every man were a U. S. Marine of the highway. And have they got friends? In the night nearly every car that we met would blink its lights to the cheerful Greyhound and we returned the salute. One driver

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told me of the old days, the early days of busses, and this chap had been at this business since its earliest days. Then schedules were not so tight. Ladies in distress on the road would stop the Greyhounds for assistance in cases of tire trouble and these kindly men came to their rescue. I would bet right now, that any lady in distress with her car, some dark night would receive kindly aid from these gentlemen who operate the busses.

### *I Learn a Few Pointers on Night Driving*

As each and every bus operator drives exactly the same way that all others do, I came to the conclusion that the company must have very strict rules of driving. For example, at night each uses his spotlight when no cars were approaching to illuminate the distant roadway ahead of him. First lesson. Before reaching any curve or underpass a few blasts on the air horns will herald our approach in cheerful tones. Every bus stops at railway crossings and the front door is opened. Guess why? So the driver can better HEAR if any trains are coming. Keep that in your bonnet. When descending any steep hill they always let her go down under compression in a lower gear.

Most travelers stop over to sleep in hotels. In bus travel this is convenience itself, as your bus station is usually at a good hotel or right next door to one. No taxi bills. As for me, I sat right on in busses from New York to the Pacific and have not a single complaint to make. A few suggestions I have for anyone planning to see the country this way, and it's a swell way to do it. Take a blanket roll along. Pillows you can rent aboard, for a quarter and it is a quarter well spent for a clean, white, soft pillow. These two combined with the reclining-back chair make a restful bed. Take along a pair of comfortable soft slippers for the night. I suggest this because I'm a nut for comfort. If you follow these simple directions and do not become a bus enthusiast my only advice is to sleep in hotels on the next long trip.

On our arrival in Pittsburg I had a two hour wait for the next bus. Here the bus station had private rooms, with washstand, shower, shoeshine service and clothes press. Next door was a barber shop, but I saved money by shaving myself.

Absolutely the best way to see your country is to travel the highways. These busses have the finest drivers, best tires, all safety factors even to safety glass in all windows, air brakes, low center of gravity and ever so many so ons. A bus gives the passenger three views as he travels, through the windshield and out both sides of those modern covered wagons.

Speaking of modern covered wagons, I could not help thinking of those old pioneers traveling over this great country of ours by ox team, and then in contrast think about our friends in speed planes tearing across in ten hours. At Kansas City I found the same up-to-date accommodations as at Pittsburg.

From there, west, the United States started spreading out wider, broader and more beautiful. Tearing out across the states of New Mexico, Arizona and California on the famous Santa Fe Trail our eyes see sights that cannot help but thrill an American. Out over these vast plains, mountains and deserts, our forefathers plodded doggedly with their ox-pulled covered wagons to settle the grand and glorious WEST. We can imagine Indians coming at a wild gallop from those red hills over there on our left and thank our lucky stars for the progress our country has made these last hundred years or so.

And then to come down off the San Bernardino Mountains into the sunlight of California, with Hollywood but a few hours ahead, home, family and friends; I tell

you it is grand! Home again, with greetings to all of you from little Sweden, away up there in the North.

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## MOTION PICTURE SOUND RECORDING

(Continued from Page 25)

whether the pipe is open or closed at the upper end. Within the organ pipe, the current of air strikes against a sharp edge (in a *flute* pipe), and the air is set in vibration, the tube acting as a resonator. In some organ pipes there are reeds (*reed* pipes), but the note produced is due chiefly to the air column in the pipe, the reed serving simply to set it in vibration.

Stringed instruments, such as the piano, harp, and violin, are played by striking, plucking, or bowing. These instruments have wooden bodies, which act as sounding boards to re-enforce the tones of the strings and communicate them to an air surface of greater area. Each violin string can be made to give a large number of notes by pressing on it at various places and so changing its length. The variation in its length and the particular place and manner in which the string is bowed deter-

mines the overtones; so a wide range not only of pitch but also of quality may be obtained.

Percussion instruments, such as the kettle drum with its vibrating membrane, produce the greatest pressures used in music; and although the fundamental frequency of their notes is low, their overtones extend as high as 10,000 dv. That most wonderful of all musical instruments, the human voice, also employs vibrating membranes. The vibration of a pair of membranes, one on each side of the throat, called the vocal cords, and the vibration of the tongue and lips produce its notes. The pitch of the voice is varied by changing the muscular tension on the vocal cords; while the overtones, and so the quality of the voice, are controlled by the shape of the mouth.

This all may have seemed a bit aside from the subject of sound recording; but if a monitor man would "mix" music intelligently, he must have a thorough knowledge of sound and musical instruments.

## WHAT HAS HAPPENED TO COLOR?

(Continued from Page 19)

too much, and it will be so appealing that it will cause two box offices to bloom where one bloomed before. It probably will be introduced by some struggling independent producer, who will be forced to hock his shirt and the buttons thereof, together with his soul, to the money lenders who will think he is "cuckoo," but won't care if the security is O. K.

We will not, of course, bounce our old and faithful friends, Black and White, into the street. We need them in the new setup. Color is accentuated and modulated by black, which is the absence of color, and white, which is the combination of all colors. In color compositions they may be compared to the drums of symphonic music, which carry the rhythm, punctuate phrasing and form a monotone background against which the brilliance of the other notes stands out.

Color will open new roads to romance and make it possible to travel again over the old ones. It will place a new brush in the hands of the director, with which he may paint new pictures designed to produce new dramatic reactions. It will place a new medium in the hands of the cinematographer but he must be more than ever an artist with an artist's understanding of color and capable of concealing the mechanics of his profession behind the beauty of his compositions.

Color will meet terrific opposition from many old timers, who are the "stand patters." They dismiss color with an authoritative wave of the hand and a curt: "Don't waste my time." They are quite serious about it when they patiently explain that color, good, bad or indifferent, hurts the eyes; that even color in the raw, as Nature makes it, has an unpleasant effect on the nervous system; that one reason people have a weakness for the black and white cinema is because it offers an avenue of

escape from a world brilliant with color. They also put up this same kind of an argument about sound.

If natural colors on the screen, or off it, causes eye strain, then all the color engineers should go into the spectacle business and make monotone glasses for all the animal kingdom, including cows and asses. They must be suffering something terrible—the cows, I mean.

We close our program now with our theme music entitled, "We Got Color" played by the pianist of Act One and Act Two. He has developed into a great artist since we saw him last. He has grown pointed whiskers and affects a flowing bow tie. Listen to that baby tickle the ivories! It's an original composition, brilliant as sunshine and as appealing as moonlight. He hits the old music box with everything but the piano bench and it comes right back at him with everything he asks for. He has learned that standing on the soft pedal with both feet isn't so hot. He now uses it for shading; which, in case you have just turned your dials to this station, is another way of saying that color cinematography is like that.

## OUR NOVEMBER COVER

The striking and unusual front cover which adorns our magazine this month is a combination of the American Great Southwest and of Hawaii. The production still was supervised by Alvin Wyckoff, chief cinematographer of the Seven Seas Corporation on location in the Island of Kauai. But the clouds in Hawaii were not functioning the day the still was shot and it was found necessary to appropriate some choice ones from a still recently shot by Dan Clark, while photographing "Smoky," the big wild-horse picture for Fox. The combination was suggested by our General Manager, Mr. Edward Estabrook, and the necessary art work to complete the combination was achieved by our artist, Mr. John Corydon Hill.

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### WHO DID IT FIRST?

(An account of the first softfocus lens to be used in motion photography)

In 1915 I was a member of the D. W. Griffith camera staff and working with Paul Powell, a director who was in many respects the same type of idealist as Mr. Griffith. Always in the forefront of his profession Mr. Powell welcomed any suggestion however untried and theoretical. It was the policy of the studio to give a cash bonus to the director finishing a picture in the shortest length of time and to the one making the most artistic production. Mr. Powell never received a bonus for speed but frequently his artistic temperament secured recognition in bonus form which he invariably shared with me. An acceptable appreciation in those days of no screen credit.

We secured soft effects in our photography by the use of gauze, oil on the lens and shooting wide open. All of which expedients were lacking in the results desired. Therefore when Mr. Powell was assigned the title, "Marriage o' Molly O'," with Mae Marsh and Robert Harron, we realized that the great opportunity was at hand to produce that which we both had in mind.

The story was laid in Old Ireland and of course the boy and girl were lovers. As often as they met the girl would beg for a story about fairies and goblins, ever dear to the Irish heart whether old or young. The tales that the boy would tell presented the opportunity referred to. To be sure the standard double exposure could be resorted to and was, yet we felt that a misty, ethereal atmosphere, something we never had seen on the screen before, should pervade those particular scenes in order to make obvious their unnaturalness although they were reality itself to the girl. Then, too, by confining our efforts to the fairy stories we hoped to make the scenes all the more effective by way of contrast. (Have always contended, by the way, that soft focus photography must not be used indiscriminately; that there must be a reason for it.)

Karl Struss at that time was manufacturing pictorial lenses in New York and, having seen some stills made with his type of lens, I wrote him to forward me a two-inch *provided* he thought it would fulfill the purpose for which we intended it. Karl sent me a two and a three-inch single lens, adjustable diaphragm and advised that so far as he knew nothing ever had been attempted in motion picture work with that type of lens, yet he saw no reason why some interesting pictures could not be made with it.

Well, the "pre-view" occurred at the old Majestic, but the comments from press and individuals were not all laudatory by any means. The then Evening Express stated frankly that in its opinion the cameraman was no doubt intoxicated when he photographed the picture—a portion of the time at any rate.

During the life of the picture which was not over long, exhibitors were continually asking for copies to replace the ones they had which had been printed out of focus. "Wids'" gave us a most encouraging criticism as did the editor of an art magazine published in Chicago the title of which I do not recall. Mildred Harris made her screen debut as Queen of the Fairies and shared in the favorable comment when it was forthcoming.—John Leezer.

### HOW TO MAKE A CAMERA-STAND

(Continued from Page 20)

will from somewhat over six feet to almost floor level, will point its lens to the ceiling with the same facility as it may be directed to the floor and, glory of glories, it will stay level if so desired. Moreover, the operation of moving it from one position to another is but the simple matter of releasing a hand-screw and permitting the

counterweight concealed within the column to do its stuff.

Incident to the late depression you may be governed by considerations of cost and might harbor the illusion that such a stand is a tremendously expensive piece of machinery. It is. The affluent may acquire one as I have outlined here or may do as I did: Look over the junk yards and pick up one for five inflated dollars!

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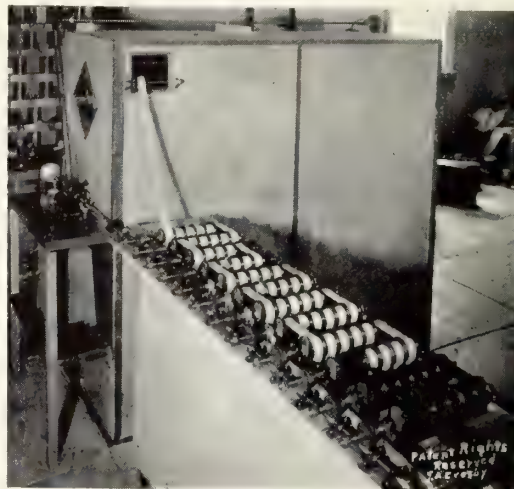
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**THE INTERNATIONAL PROJECTIONIST**, a monthly magazine published in the interests of the projectionist. Interesting, instructive. Yearly subscription U. S. and possessions, \$2; foreign countries, \$2.50. James J. Finn Publishing Corp., 1 West 47th St., New York.

## CROSBY AUTOMATIC DEVELOPING MACHINE

James Crosby, for thirty-five years a cameraman in California, and a researcher into things cinematographic,



has developed an automatic film developing machine which is attracting great attention. The machine is installed at his demonstration rooms, Nos. 6323-5 Santa Monica Boulevard, corner of Lillian Way, where Mr. Crosby is on hand to personally explain its fine points.

The new automatic developer occupies a space only 8 x 10 feet and has a capacity of 1200 feet of film per hour. The machine runs with perfect smoothness and there is no tension on the film at any time. The interested public is invited to inspect the new machine day or night.

## BACK-FLOW FROM OUT OF FOCUS (See Page 32)

It seems as though all the labor representatives wear diamonds. The larger the diamond the larger the leader. Elliott has the largest ring of anyone I saw and I guess that is why they made him President. I didn't have a diamond to my name, but I was an exhibit and technical advisor so it didn't matter.

## POSITION WANTED

**DO YOU WANT A CAMERAMAN** who is an expert on studio production; or an expedition cameraman who knows every corner of the world; or a cameraman who thoroughly understands the making of industrial pictures; or an expert newsreel photographer; or an expert color cameraman? A limited number of cameramen, backed by years of experience, are available. Write stating your requirements and we shall be glad to assist you in choosing the kind of cameraman you want. **INTERNATIONAL PHOTOGRAPHER**, 1605 North Cahuenga Ave., Hollywood.

**EXPEDITION CAMERAMAN**, recently returned from India, China, Japan desires to join company contemplating series of pictures anywhere in the world. Many years experience—color or black and white photography. Write Expedition Cameraman, care International Photographer.

## MISCELLANEOUS

**COMPLETE COURSE IN FLYING**—If interested in aviation, see Roy Klaffki, 1605 North Cahuenga Ave., Hollywood.

**WANTED**—To know of the whereabouts of motion picture relics, documents, or equipment of a historical nature for Museum purposes. Write Earl Theisen, care of International Photographer, 1605 Cahuenga Ave., Hollywood.

## REAL ESTATE—SALE AND EXCHANGE

**HOME FOR SALE IN CAMERAMAN'S PARADISE**—In famed Green Verdugo Hills, with background of huge oaks and sycamore trees. Sturdily built, artistic two-story Spanish hillside home, with 3 bedrooms, 2 fireplaces, tile bath and a half, extra tile shower; a large room with cement floor, drain, sink, gas and electric outlets, built for laboratory and dark room; year old, overlooking five-acre lawn. Thirty minutes from L. A. or Hollywood, swimming pool, Elevation 1470 feet. **ERICKSON**, South End of New York Ave., La Crescenta, Calif. Price \$5,500.

**MITCHELL, BELL & HOWELL** or other camera equipment in exchange for my valuable properties, all or part. Property is located in East Detroit, Michigan, consisting of 26 lots, improved with one five-room and one four-room house, adjoins Golf Club. Conservatively valued at \$16,500—total incumbrance \$3500. For full particulars write S. E. Szabo, 5000 Fourth Ave., Los Angeles.



## AN AID TO THE STUDY OF OPTICAL PHENOMENA

By DR. A. J. GINSBERG

Light and the study of optics, while a subject of major interest to the philosopher and physicist for hundreds of years, remains a mystery to the average man. Thus, when such a term as "optical bench" is mentioned, laymen greet it with expressions of polite curiosity or simply raise their eyebrows. Indeed, it is surprising how many well educated persons are almost completely ignorant regarding a branch of science that concerns almost every phase of modern life. \* \* \* \*

Heretofore, such an important adjunct to the physics laboratory as the optical bench has been too costly when accurate enough for research work; or, if cheap enough for individual experimentation, has been too inaccurate and limited in application to be used for research work.

There have recently appeared advance notices of a new optical bench which represents a revolutionary improvement in design and manufacture, permitting it, with its accessories, to be offered at prices easily within the reach of the average industrial laboratory, high school, or college. With it almost every conceivable experiment in optics can be performed, either by individuals or as a classroom demonstration. Accessories are provided for experiments in reflection, refraction, diffraction, polarization, telescopic, microscopy, photography, spectroscopy, etc.

The usefulness of the bench can be further extended into the fields of photo-electric and thermo-dynamic phenomena by the addition of suitable equipment. Such devices are already designed and under construction and more items will be added to the already extensive list as the demand increases. \* \* \* \*

### Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

Of International Photographer, published monthly at Los Angeles State of California, County of Los Angeles.

Before me, a notary public in and for the state and county aforesaid, personally appeared Silas E. Snyder, who, having been duly sworn according to law, deposes and says that he is the editor of The International Photographer and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, INTERNATIONAL PHOTOGRAPHER, Los Angeles, California; Editor, Silas E. Snyder, Los Angeles, California; Managing Editor, Edward T. Estabrook, Los Angeles, California.

2. That the owner is (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation the names and addresses of the individual owners must be given. If owned by a firm, company or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) International Photographers, Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, 1605 North Cahuenga Avenue, Hollywood, California. President, Alvin Wyckoff; First Vice-President, Roy H. Klaffki; Second Vice-President, Arthur Edeson; Third Vice-President, Hal Mohr; Treasurer and Financial Secretary, J. O. Taylor; Recording Secretary, Lyman Broening; Sergeant-at-Arms, Len Powers; all of 1605 North Cahuenga Ave., Hollywood, California.

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SILAS E. SNYDER, Editor.

Sworn to and subscribed before me this 29th day of Sept., 1933.

LENOX C. DAY, Notary Public.

In and for the County of Los Angeles, State of California. (My Commission expires Oct. 30, 1933.)

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# Out of Focus

By OTTO PHOCUS

## A FULL REPORT



This faux pas was committed in Child's Restaurant in Washington, D. C. and shows a corner of the U. S. Commerce Building, a lamp post and the Washington Monument with buckwheat cakes in the foreground. It was shot with scrambled eggs and butter cakes.

Having spent over a month in Washington in connection with the Proposed Motion Picture Code, before the N. R. A. Board, I will say it is still in its infancy. A complete report has been made to the membership and I am so full of factual data, proposals, additions and modifications that I will epitomize my remarks and say: "See Hurd." Another week there and I would have been talking like a lawyer, which is not bad work if you can get it. Well! anyway, here is my "full" report for this page:

The Congressional Library is full of books.  
The Bureau of Printing and Engraving is full of colored people.  
The Arlington Cemetery is full of patriots.  
The Capitol Building is full of cracks.  
The Senate is full of chairs.  
The Smithsonian Institution is full of relics.  
The relics (guides) are full of hot air.  
The Potomac River is full of mud.  
The Commerce Building (covers 17½ acres—cost 17 million)—is full of hallways.  
The Willard Hotel was full of labor leaders.  
The labor leaders were full of diamonds.  
The Washington Monument is full of visitors.  
The Federal offices are full of democrats.  
The picture shows are full of Republicans.  
And all the West Coast Delegates were full of oysters.  
And were they good?

## DO YOU KNOW

That Bob Martin yodels via post card from Madraz, Stubaital, Tyrol, Austria, that the Alps are not what they are cracked up to be and sends a cheer for the California mountains.

That Charlie David, EX-Pres., Local 666, holds the world's record for being exhibited as a cameraman. He has been with an act at Hollywood, at the World's Fair in Chicago and millions have seen it. Story next issue.

That Max Markham, his assistant, donated a beautiful panoramic picture of the fair which can be seen at the office without charge.

That Jack McKenzie has been working at the Metropolitan Studios and rather enjoys it.

That Rolla Flora will soon open his bag of tricks to the entire motion picture field after being at one studio for years.

That I sat in the lobby of the Willard Hotel long enough to qualify as a "lobbyist."

That I have been under, over and across many bridges, but New York has the best Bridges.

That Harry Wild arrived in Washington for a month's stay on an R. K. O. picture. He'll get tired of it too.

That I went under the Hudson River and didn't get wet.

That I had dinner in N. Y. with Prince Romanoff, Amos and Andy, Winnie Sheehan, Bob Kane, Harold Lloyd, Rudy Vallee, Paul Whiteman, O. O. McIntyre, Mark Hellinger, and many other celebrities too numerous to mention.

That we were at different tables.

That the Tropical Film Company has opened offices and expects to take several of our members to Central America in the future in a boat.

That Bill Jasper gave my—T. W. A.—N. R. A. gag to Frazier Edwards and it was published in the Washington Side Show. I can prove it.

That the larger the brief case you carry in Washington, the larger you appear as a lawyer. Howard helped me out by making me carry his as well as the one I had.

## ANOTHER VICTORY

Deputy Administrator Sol Rosenblatt admitted before witnesses that his nose was larger than mine.

## GOOD BOX OFFICE ATTRACTION

In the Code was a paragraph asking that nepotism not be shown. When one of the exhibitors had his attention called to it he said: "That's up to the censor if they don't want to show it," and then added—"Who produced it and is the negative cost very high?"

## AN HISTORICAL DOCUMENT

This historical document was pushed under our door by the mail man and was donated by A. D. Jewell of Oradell, N. J., and he writes as follows:

"It shows the always debonnaire Hal Mohr, in Sunday morning negligee, descending front steps of Charles Pathe's house in Vincennes, France en route to his weekly shower in the servant's quarters. His left hand is not bandaged, but merely grasps the necessary towel and savon. The date is early in 1919.

Such was life in the old 55th Service Co., Signal Corps, (the self-styled 'Fighting Photographers') while on duty at the laboratory in the Pathé Freres plant. Ah—them days is gone forever!"

Very truly yours,

A. L. JEWELL.

In case you do not recognize Hal, he is the fellow with the overcoat.



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## NEW G-E MAZDA MOVIEFLOOD LAMP

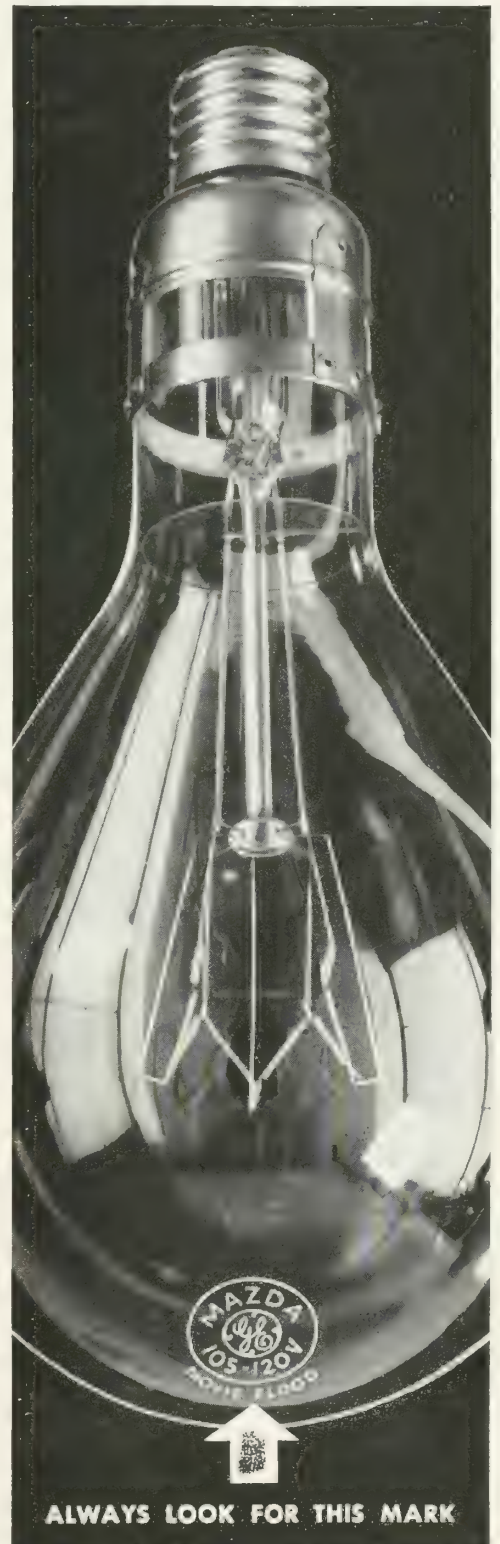
*THIS amazing new lamp puts a helpful new tool in the hands of the cinematographer, with these definite advantages:*

- 1 Brighter light.** This new G-E MAZDA Movieflood lamp, rated at 2000 watts, gives twice as much light as the standard 1500-watt lamp. Photographically, it is 3 times as effective. Thus fewer units are needed on the set and more natural effects are possible.
- 2 Whiter light.** The light from this new lamp matches very closely the sensitivity of super pan film, which results in a more pleasing rendition of tone and texture. It brings out black tones especially well, and does not overemphasize red tones.
- 3 Better light balances.** The increased intensity of this new lamp seems to give its light greater carrying power, which makes shadows softer and more natural, while highlights still retain desirable softness and definition.
- 4 Less heat** — in proportion to light. This new lamp produces less infra red, or heat rays, from an equal wattage than a standard lamp. This means greater comfort for everyone on the set . . . especially in color photography, where the higher intensity light necessary often boosted the temperature to that of the tropics.
- 5 Designed for color work.** Because of its coolness, intensity and color quality, this new lamp greatly simplifies the problem of lighting for color.

This new G-E MAZDA Movieflood lamp has a life of about 15 hours. It may be prolonged by operating at reduced voltage when not shooting.

Typical of General Electric's constant contributions to better photography—this new lamp suggests another reason why studios from coast to coast use G-E MAZDA lamps for all their lighting, from set to "process" work. General Electric Company, Nela Park, Cleveland, O.

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# INTERNATIONAL PHOTOGRAPHER

HOLLYWOOD

FIFTH YEAR

DECEMBER 1933

VOL.  
NO. 1



WALT DISNEY

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A COPY

It required the Spirit of Christmas to get the Three Little Pigs and the Big Bad Wolf together, and here they are, the fascinating little devils, doing a Christmas shindy while Mr. Wolf, as cameraman, cranks his wonder box. Anyhow that's what Mr. Disney's drawing tells us—and he knows.

*Drawn especially for the International Photographer by Walt Disney.*

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# INTERNATIONAL PHOTOGRAPHER

MOTION PICTURE ARTS AND CRAFTS

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Printed in the U. S. A. at Hollywood, California



## OUR OFFERINGS FOR JANUARY

Augustus Wolfman, editor of our new miniature camera department, will open his campaign with an article entitled, "Miniature Camera Photography." Mr. Wolfman will direct his department from New York.

Shirley Vance Martin, whose article "Stills and the Rationale of Still Photography," was omitted this month because of illness, will be among those present in January.

Earl Theisen, brilliant young writer on subjects appertaining to motion picture history and production, will begin the New Year with one of his most interesting yarns, "Teaching Mickey Mouse to Walk."

Milton Moore will follow up his fine article on color, in our November issue, with another of the same kind entitled, "What Will Happen to the Movies When They Get Color?"

F. Morris Steadman, whose articles on "Light" are attracting great and increasing attention among physicists and teachers, will follow his current story with another of equal interest.

The camera's part in the magnificent "By a Waterfall" sequence, in Warner Brothers' "Footlight Parade," will be told in symposium by cameramen.

Lewis W. Physioc will tell the results of his experiments with Helio-lite, the new development in controlled reflection by John Q. Roscoe, of the famous Sir Henry E. Roscoe family of England.

### OUR COVER FOR DECEMBER

The International Photographer is proud of the front cover for December.

The subject is popular and timely and the art department of this journal enthusiastically hails the co-operation and good will of Mr. Walt Disney and his amazing assortment of livestock made famous by the genius of himself and his extraordinary organization.

In considering the aforesaid genius of Mr. Disney the reader will certainly call to mind, also, the large part taken in the production of the "Three Little Pigs" cartoon by Technicolor, whose new three color system has added so much to the attractiveness of this delightful novelty.





## "Peace on Earth Good Will to Men"



"ADORATION OF THE SHEPHERDS"—STILL BY E. VALLEJO

"... and, lo, the star, which they saw in the east, went before them,—till it came and stood over where the young child was."

# Your Great Gift

Well, here it is Christmas again. Seems like they come pretty fast.

Seems like as you get older you don't look forward to Christmas so much as you look back at Christmases past and gone.

Does it seem so to you?

And this takes me back to the day before Christmas about fifteen years ago.

My friend Bartlett and I were among those doing the Good Fellow act back there in Kansas City, Missouri.

We were assigned to about thirty families and Bartlett's big Cadillac looked like a moving van, so full was it stacked with baskets, and right on top was a big basket of good things on which lay a beautiful blonde doll and a lovely doll hat trimmed with blue ribbons. It was some hat.

The Boss Good Fellow in his instructions said: "At \_\_\_\_\_ Street look for a family named \_\_\_\_\_, man, wife and little girl about four. Money, coal, food and clothing needed, and a doll for baby. Also doll hat—blonde straw trimmed in blue ribbon, and don't dare to forget doll and hat."

(By the way, jever long for a GREAT GIFT—something that you just had to have—something for which there could be no substitute? And did the years pass and did you look wistfully for the GREAT GIFT to come and it did not?)

Well, Bartlett and I had the time of our lives distributing those baskets and things and as the hours passed we were both sad and happy—for some of the things we saw made our hearts heavy.

At last, as the shadows of the short day began to lengthen, the weather changed and a heavy snow began falling, turning to slush as it touched the pavement, and the going was ticklish.

At last all the baskets had been delivered except the big one with the blonde doll and hat and, to our consternation, when we reached the address tagged on the basket, it was a rich man's home—no such family lived in all that section. Some one had blundered.

Bartlett and I were sick. We simply couldn't endure the thought of that baby looking wistfully for her expected gift and being disappointed. Headquarters couldn't help us. We were up against it.

It was nearly dark when we turned the nose of the Cadillac toward down-town and I think both of us were asking the Prince of Peace to guide us to the owner of this doll when the car turned from Gilham Road into McGee Street and started at a brisk rate down the thoroughfare. Just across the viaduct over the car tracks were the McClure flats—two solid blocks of one-story houses, squalid and mean.

As we struck the down grade toward Nineteenth Street a truck loaded with milk suddenly skidded over to our side of the street and before Bartlett could apply the brakes we hit the truck head on, turned around, shot across the street and brought up on the parking right side up.

A policeman came running up.

"What the—"

That's as far as he got for there, not six feet away, her tear stained face pressed against the window, looking sadly out into the night, was our baby.

"By gad, there she is," we both yelled at once, and, with the flabbergasted cop looking on open mouthed, Bartlett grabbed the basket and I grabbed the doll and hat and we busted into that house like an avalanche. While Bartlett was giving his goodies and other gifts to the parents I thrust the big doll into the baby's arms, put the hat on her tousled head, gave her a kiss and ran out to look over our busted bus and to surrender to the minion of the law, but not before I heard a tiny voice say:

"Look, Mamma, God sent my gift."

"I knew He would," she said.

I said to the policeman:

"Well, here we are. Anybody hurt?"

"No; Good Fellows, eh?"

"Tryin' to be. Our last basket."

"I saw that. You guys gwan home."

Bartlett joined me.

We looked back at the happy family inside.

Bartlett said: "When God has a package to deliver He delivers it even if He has to wreck a truck to do it." (The truck wasn't hurt as badly as we were.)

So even though the shadows may be falling and the day far spent, if we do not weary of watching I'm sure that the GREAT GIFT—our heart's desire—will surely come to all of us.

## MERRY CHRISTMAS—AND MANY THANKS

To Rob Wagner, of the famous Script, the Sage of Beverly Hills; to W. R. Wilkerson, genius of the Hollywood Reporter; to Elizabeth Yeaman, of the Hollywood Citizen; to Ralph Wilk, of the Film Daily; to Arthur Unger and his brilliant staff, of Variety, for their consistent, friendly attitude toward the cameramen of the motion picture industry.

These writers have always given a square deal to the men who actually photograph the picture plays and, not only are they friendly, but they seem to understand the camera from the technical angle.

More power to them and theirs, and may their portion of Yule-tide cheer forever increase!

## DIRECTOR STAUB'S THIRD

Director Ralph Staub has started production on his third comedy for Warner Brothers, in New York. Lulu McConnell, famous stage star is featured. Edward DuPar is handling the camera.

## ERPI HIGH SPEED

Electrical Research Products has completed its first course of instruction on the high speed camera. The men who took the course were: Harry J. Banda, Chief Photographer of the U. S. Navy and E. C. Buckley of the National Advisory Committee on Aeronautics, high speed camera photographer of the Langley Memorial Laboratory at Langley Field, Va. Both organizations have purchased several of the Western Electric Cine-Timer, the ultra-high speed camera capable of photographing 2,000 frames per second and of recording time in thousandths of a second.

## DEBRIE'S LATEST

André Debrie, Inc., have on exhibition their latest rolling tripod. This rolling tripod is a large improvement on the so-called "dollies" since it can be operated by the cameraman himself, steers easily like an automobile, raises and lowers and is so constructed that the legs are not in the way of the cameraman or his assistant. *This rolling tripod together with the ultra-silent SUPER PARVO camera represents the latest in studio equipment.*





By **EARL THEISEN**

**Honorary Curator  
Motion Pictures  
L. A. Museum**

# THE STORY OF SLIDES & TITLES

**T**HE audience is leaning forward, tingling with delicious fright. Amid a back-stage clatter and a steady thump, thump, a devil is approaching on a misty cloud. As he gets larger, the bolder of the audience become less bold and the tremulant ones look to nearby exits. It is truly impressive to them.

It is a new experience. It is a slide show early in 1800. The people of that day were unaccustomed to seeing shadowy pictures thrown on the wall or on banks of smoky vapor. To them it was magic and these shows were known far and wide as the "magic lantern performances."

They began in England. Henry Langdon Child, it is said by Will Day, an authority, inaugurated them as early as 1806, while others say the first slide-show was in 1811. At any rate, during this period, he held lantern shows at the Sanspareil Theater, now the Adelphi in London. They were known as the "Phantasmagoria."

That was a suitable name for them. To the incredulous then they were fantastic and mystifying. The pictures which were usually of a religious or pseudoscientific nature, were hand-painted pictures on glass slides. They were thrown to a ten or twelve foot screen by means of a magic lantern. A favorite illusion of the slide-shows was having the devil or a monster approach the audience. This effect was gained by the operator slowly moving his lantern. Back-stage assistants lent realism with suitable noises. Because they had heard a lot about the devil and very little about the magic lantern, the populace were sure it was the real thing. After the show, if they stayed that long, hesitantly they went down poorly lighted streets to their homes. And they resolved to mend their ways.

Many illusions were introduced during these shows. By the use of the Bi-Unial, or double lantern, such effects as visions could be made to appear. This was done by projecting what was called the "foundation image" or the main part of the picture to the screen. Then by means of a second lantern, a suitable vision picture could be overlaid. Movement effect toward or away from the audience was gained by carrying the lantern either towards or away from the screen. Often a mystifying effect was obtained by throwing the picture to a bank of smoke. The wispiess of the picture on the smoke bank floating about the room assured the audience they were favored with a visitation from another world. And they acted accordingly. The back-stage noise, which was always voluminous, added to the confusion.

The Magic Lantern had first been invented in 1640 by Athanasius Kircher. He called it the "Magia Catop-

trica." Even though Kircher is credited with this invention, it would appear that Cellini knew of it a century earlier since he produced "phantom figures in the smoke of fires." From the first, until photography became available, the pictures used in the lanterns were hand drawn. Until Child started his shows, the lantern was hardly more than a toy. With the beginning of his shows, the lantern was heralded as an educational device. Besides the magic thrill effects, Child lectured with the aid of slides on scientific accomplishments, travels and like subjects. He facilitated the performance of the lantern with the addition of a "dissolver." This "dissolver" was generally used on his Bi-Unial Lantern, which was a lantern that had two optical systems, or, in other words, it could project two pictures. It had two objectives with slide holders which were side by side from the same lamp-house. The "dissolver" was in the form of a rocker arm that extended across the front of the two slide holders. This arm was so set that when it shut off the light from one picture, the other was permitted to the screen. With this system, such elaborate themes as a boy holding a cat by the tail over a tub of water in the first slide picture could be dissolved to a second slide showing the cat doused in the tub. They could not show a third of the boy getting scratched, and thereby overlooked the moral. Of course, that was the grand-daddy of today's slap-stick comedy.

Too, they had color pictures! All these slides were hand colored. Many of them were done by noted artists. The artists painted directly on the glass with a transparent color. Another form of color was the "Chromotrope." It was a slide with a spiral color design. This design was made to revolve upon the screen. At times they used two lanterns and simultaneously projected two slides—two slides having elaborately colored designs. When the two slides were revolved, a kaliedoscope of color confusion was the result. They liked it. The use and perfection of the "chromotrope" as well as the Bi-Unial Lantern is credited to Child. He is said to be the "father" of the Stereopticon and Magic Lantern. While he did not invent the lantern he certainly made it a popular form of entertainment.

The first of travel slides were brought together by Richard Vaughan Yates of Liverpool. He made a tour of the Holy Land and then had noted artists paint slides of various points there. This was sometime prior to 1837. John Smith, one of the editors of the "Liverpool Mercury," was so interested in the slides that he arranged an extensive course of lectures on geography. They were delivered in the principal English towns. For illumination, his lantern as well as all lanterns at this time burned oil. In 1837, he started to use the "Lime-light," or as it was then known, the "Drummond Light."

With the advent of the limelight, the oil, which was usually "Camphene," a turpentine derivative, was largely replaced. Kerosene was used to some extent in the lanterns used in the homes after it was discovered in 1853, because the limelight and other burning gases was beyond the reach of the householder.

It is of interest to note that, at first, the oxygen and hydrogen used for making the limelight were carried in bags. Pressure to operate the jets was obtained by pressing on the bags. Metal tanks for carrying compressed gas were used first in this country. That was about 1880. The intense white light of the limelight was the result of the oxygen and hydrogen burning against a cylindrical piece of lime.



Different forms of illumination came into a temporary use such as the magnesium ribbons, alcohol flame with oxygen gas, pyro-hydrogen and others. Sir Henry Roscoe used the electric light at Victoria University (Owens College) during the early '80s.

dramatic days when the movie producers printed long lengths of stock titles such as "One Hour Later," which was invariably followed by a scene of the hero or sheriff coming to the rescue on horseback at a wild gallop. All the early companies had a library of stock titles that



An assortment of announcement and advertisement slides of the early movie palaces.

A popular theme of the earlier slide shows was "to prove that the world was round." Their method of doing this was to have a slide picture of the world. A second slide with a picture of a ship placed so it coincided with the outer circumference of the world was made to revolve by means of a small gear.

The titles of some of these slide shows were more of a melodramatic nature—"The Orphan's Dream," "The Christmas Carol," "The Pilgrim's Progress." In "The Orphan's Dream" the little orphan was first shown asleep on a couch. A second slide superimposed over the first showed her dreaming that she was in Heaven with angels. Probably the most elaborate of these hand-painted slides was the show at the Royal Polytechnic Institution, in England, in which six lanterns were used to show the Siege of Delhi. The bursting of shells, fire of artillery, and other effects produced were satisfactory if we may judge from W. I. Chadwick, who said in his "Magic Lantern Manual" of 1886—"The optical effects were assisted by various sounds of war's alarms, for the production of which more volunteers than were absolutely required would occasionally trespass behind the scenes, and aided to produce those terrific sounds that some persons of a nervous temperament said were really stunning."

The hand-painted slide was eliminated as photographic methods were perfected. With the exception of Lecture Tours, and educational demonstration, the slide-shows were put aside when the motion picture was shown. The slide came to be part of the motion picture after the first glamour of the "pictures that moved" had worn away.

Slides were used first in the motion picture as titles. In fact, all the earlier projectors had slide attachments. Later the titles were added to the films, then the slide found a further use as announcements, advertisements and most important of all as an entertainment milestone, the illustrated song slides. All the popular song hits were made into slides which were thrown to the Nickelodeon Screens as early as 1900, according to Paul Panzer, who was later the Vitagraph Hero and the beloved Pathe Villain. They were sung by the audience. The song slides lingered until about 1920. Advertisement slides of local merchants continued on the screen until recently, in fact, many of the very lowbrow theaters and community show-houses still use them.

This article would not be complete unless mention was made of the famous early movie titles; of the melo-

were used here and there as a pinch of salt in practically every picture.

Until 1916 and 1917, titles were considered a necessary evil. At this time there was a general trend toward a more ornate title. This move may be said to have been led by the Lasky Studio. During this time such men as Max Handscheg, Fred Westerberg, Maurice Greeley, Jess Hughes and Wallace Clendenin brought credit to the motion picture through their title improvements. Wallace Clendenin, who was a title maker during this period, recalls many interesting ramifications in the early titles. He wrote a few notes as follows:

"During the latter part of 1916 and early 1917, white ink was used on black cards by Hugo Jacobsmeyer and others. This system was not very satisfactory as it gave a grayish tint to the lettering and was also apt to give a lack of sharpness on the edges.

"In March or April of 1917, Jess Hughes and Morris Greeley (Pacific Title Card Co.) started using white impression paper, which, when used with warmed type, gave a dead white letter on a black card. This impression paper was similar to carbon paper. Defects of the system were liable to flake off along the edges and difficulty of getting small sharp lines to stick on the card.

"Lasky Studio, Bosworth Studio and others, at one time used lantern slide titles. In this system the card was printed with ordinary black ink on a white card, then photographed on a lantern slide plate and developed for maximum contrast. The lantern slide was then photographed, giving a negative title. Lasky used one of the regular cameras for this work; some places used a special projection printer—one was built by A. Fried.

"Kalem Company used pictures on their titles as far back as 1907 but they were discontinued shortly. Climax Company, who built the studio later used by Metro at corner of Romaine and Lillian Way in Hollywood, used illustrated titles in December, 1914, on the picture, "The Lone Star Rush." Ince began using illustrated titles about a year later. Of these, the body of the title was printed on one black card, without the first capital letter. This letter was then done by hand, and was more or less ornate. The illustration was done on a black card in a sort of gray pastel, and the two were then double exposed on the film. After the Ince outfit pulled out of the Triangle Studio early in '17, the cameraman on this work was a man by the name of Brown; he



## EARLY SLIDE SHOW, "THE SIEGE OF DELHI"



Top—"Chromotype Color Slide." Lower—A two slide show, "Dousing the Cat."

used a Bell & Howell camera on a tripod with the points set in brass floor sockets—used two Cooper Hewitt "U" tubes for light.

"The William Horsley laboratory on the Christie lot, northwest corner of Sunset and Gower, at this time used incandescent light to shoot titles; these were in a big box with a hole at the front for the camera to shoot through and a hinged holder for the cards at the back. Studios that did not use artificial light usually pinned the cards up against the wall of the prop room on the open stage and shot by daylight, but rarely used direct sunlight."

"In some cases where a black on white card was used, the card was shot, and a dupe made from the resultant negative, this becoming the negative title."

"The Signal Film Company on Pasadena Avenue used a gold frame around the title card, with a moving scene double exposed over the title, giving the effect of a moving picture with a title over it, in a frame. That was in 1916."

"Black on white titles were sometimes used, but rarely; they showed dirt and scratches, and were not easy on the eyes."

"Thanhouser and Powers Cos., about 1910, used white enameled letters set in grooved velvet outfit made primarily for show windows."

"C. B. DeMille in 1917 used titles with backgrounds of picture illustrations in 'The Whispering Chorus,' and clay titles with scratched in lettering for Geraldine Farrar's film, 'The Woman God Forgot.'"

"Myself and Jack Smeby originated and developed art title process early in '17, making composite photographic prints of complete picture title, which was then photographed on the film. Gave the effect of raised or sunk lettering in marble, etc., or lettering 'floating' in front of picture and casting a shadow."

"'Temp' (temporary) titles were usually written by hand with a heavy black pencil and photographed with the film reversed in the camera; these were then cut into the editor's work print of the picture."

"Flash titles were used on foreign copies—on these the printer printed only about a foot of each title, then stopped the printer, wound the negative past the title, rethreaded, and printed on to the next title. After the copy was received in whatever country it was intended for, a translation title was made and cut in."

"In the early days Pathe titles were always red; so were Selig. Gaumont used greenish blue titles. Essanay,

Vitagraph, Edison, Melies, Biograph, used black and white main titles. Subtitles usually received the color of the roll they were in."

"A picture with lots of titles was no treat for the operator who had to crank by hand, as was usual in the early days. Owing to the greater amount of silver deposit on a title, there was quite an appreciable amount of extra drag when a title was going through the projector. By the same token, an insert of a letter or paper was easy cranking. It used to be quite possible to tell by the sound of the projector alone when a title was going through—still is to some extent."

"Christie used to have little cartoons on their titles, drawn by Norman Macleod."

"Ferdinand Pinney Earle made title backgrounds for some of the Harry Garson pictures in '17. They were very good."

"Essanay about 1907 used a book main title—opened book showed the Indian head trademark, page turned over and showed the main title, all black on white."

"Main titles of successful larger companies used to be imitated—early main titles used by Kay-Bee, Broncho, Domino and Keystone films were very similar to the main title layout used by Biograph, but without the Eagle picture."

"Usually, except in the case of small independent, the main title had a border of some sort, with no decorations of any kind on the subtitles during 1908 to 1914."

"Cast titles first used to any extent about 1911—Edison pioneered. One reel burlesque film made shortly before sound came in, had one scene, all the rest being credit titles."

"'The Servant in the House,' made by Triangle, '17, probably the longest of titles of any film said to have more title footage than action. That picture needed sound!"

"Biograph used small lettering; Essanay, Selig, Edison, also used small lettering; Vitagraph, Lubin, Pathe used larger letters."

## WE SALUTE YOU!

The editors and staff of *The International Photographer* take this opportunity to extend the following named friends and co-operators assurance of their enduring regard for services rendered and courtesies extended during the current year and to wish them Merry Christmases and Happy New Years so long as such things be. If any be inadvertently omitted, double thanks and good wishes are in our hearts for them. There'll be a bigger, better *International Photographer* next year and we shall hope to find you, everyone, still a member of our magazine family.

Earl Theisen, Annette Glick, George J. Lancaster, Fred Westerberg, Tony Gaudio, Ray Fernstrom, Lewis W. Physioc, James N. Doolittle, Charles P. Boyle, Alvin Wyckoff, Curtis R. Haupt, Ph.D., Al. Wetzel, Willis O'Brien, Guy Wilky, Paul Perry, Eugene J. Cour, P. B. Findley (S.M.P.E.), Robert Lothar Kendall, Ralph H. Linn, Glen R. Kershner, Jay Cleis Kroesen, Edward H. Kemp, James B. Shackelford, Fred R. Archer, Esselle Parichy, William Hartman, Harry Mimura, August Wolfman, Frank W. Vail, Milton Moore, John Leezer, Paul Ivano, Reed N. Haythorne, Geoffrey Hodson, Elmer Dyer, Irving Akers, Emery Huse, Ned Van Buren, Warren S. Transue, Neil P. Jack, Rollie Totheroh, Lieut. R. S. Macrum, U. S. A., J. M. F. Haase, Karl A. Barleben, Jr., F.R.P.S., R. Fawn Mitchell, Philip Tannura, Elmer Richardson, Charles Felstead, Fred Felbinger, George Lyng, J. R. Senda, Roman Freulich, Kenneth Alexander, Bert Longworth, William Thomas, Robert W. Coburn, Alexander Kahle, Fred Archer.



# SOME ASPECTS OF THE MOTION PICTURE IN INTERNATIONAL UNDERSTANDING

By WILLIAM A. REID, *Foreign Trade Adviser of the Pan-American Union*

(This paper, contributed to *The International Photographer*, will be incorporated in a report to be presented at the International League of Educational and International Cinematographers to be held in Rome in April, 1934.)



HE motion picture speaks to the learned and the unlearned. Of the millions of people who view motion pictures daily a large percentage do not find it necessary to go indoors; everywhere in tropical lands the evening open air movie theatre is as popular as the darkened and artificially heated playhouse in northern climes.

Illiteracy in such countries as India, China and certain parts of the Americas is a well known and lamentable fact; yet in all parts of the Orient and Occident we find the motion picture a popular entertainer of old and young, educated and illiterate, people of high or low social standing. And entertainment is only one phase of the mission of the motion picture. It is carrying instruction to millions—instructions that could not be disseminated in any other way to totally ignorant minds.

On the other hand, the news reel depicting current events and the educational films are providing cultured minds with stories of the rise and fall of nations and what science and research are achieving for mankind. Audiences of millions of people of diverse nationalities are but a cross current of humanity that is entertained and informed by the magical master teacher—so young, yet so powerful. And now that the spoken word is synchronized with human action their popularity grows among all peoples.

We visit Hollywood and we journey around the world and observe how the output of that famous center of international workers is received and displayed among foreign peoples. In a Hollywood studio we sit in silence for hours and watch the director toiling on a new picture; we sigh, we look in amazement at the infinite detail of production; the patience of Job is personified in the director who, for a dozen times, even a hundred times has his performers of all races enter or leave a stadium, utter a cry or jump from a precipice.

Day after day the ordeal is repeated. In time a new picture is released. People of many nations participated in its production and, if it proves a worthy drawing card for box offices, it may go into many editions and languages and eventually be seen by millions of people. In the film's course about the world for months and years it carries at least some phase of introduction; it depicts life and conditions in one part of the world for the benefit of those in other parts.

Consider the diversity of subject matter being woven into the movie at Hollywood; and Hollywood is only one of the great picture making centers of the world. Here are a few topics in the making: drama, comedy, history, travel, agriculture, industry, hygiene, railroading, shipping, mining, pastimes, current events.

And where are these American films distributed? A correct answer might be the whole world, including even Little America which has a population only once in a while. European countries, although they manufacture motion picture films on enormous scales, are among the leading patrons of the United States film. Even during one of the depressed years Great Britain and France increased the importation of American pictures by more than 20,000,000 feet of film.

The Dominion of Canada and the twenty Republics of the American Continent obtain from the United States millions of feet of film annually; and each of these coun-

tries has supplied subject matter for innumerable motion pictures. For Latin American history alone Hollywood has provided a library of worthy dimensions in addition to making researches into the dress and customs of southern nations from the days of the Incas to the present time.

The Jivaro Indians of the Upper Amazon region are among the wildest of the earth's peoples. But in 1932-33 numbers of these denizens of the jungles followed trails that led to an American rancher's home in eastern Ecuador. The object of their pilgrimages was to see the movies and hear the radio—those miraculous sights and sounds that came from nowhere and caused the wisest of the wild men no end of wonder and amazement. Hollywood's product was creating a kind of bond between culture and semi-savagery.

Is it not interesting to look backward into the centuries and see how the aborigines practiced their handicraft? No people of the Middle Americas are more picturesque in garb or more faithful in following ancient methods of spinning and weaving than the Indians of Guatemala. Journey along the highway from the Guatemalan capital to the curious old city of Quezaltenango; stop here and there and observe descendants of the Tultecas at their daily tasks.

It takes time and money to go to Guatemala. But the motion picture industry has sent its agents to mingle with the people; the results of their labors comprise some of the most interesting motion picture films ever "shot." They present burden-bearers on wild trails, the pottery makers at their tasks, garment weavers in action, the busy corn grinders, the husbandmen—all following customs of distant yesterday marvelously recorded by movie men of today. Such films form pages of history far more entertaining than lengthy printed books and records.

In a section of "darkest Africa" the native rubber worker has a new urge. He is employed at a fair wage, motion pictures show him how to set out young rubber trees, how to tap older ones, how to protect himself from insects, how modern sanitation helps him to live in more comfort than he has known. In short, the motion picture is "educating" some of the most ignorant of peoples. A long time must elapse before the primitive African learns his letters and begins to use the primer.

Meanwhile this new kind of education undoubtedly expands his mind to a remarkable degree.

Conversely, the record of these wild workers is brought to school and public audience in the United States where thousands, if not millions of people, learn how the ignorant African works and begins to take part in the real progress of mankind.

The International Union of the American Republics at Washington has long utilized the motion picture in introducing peoples of American Nations. A division of the organization gives special aid to club women in arranging their international programs, and lends motion picture films to clubs all over the United States. There is no charge for this service other than the nominal express fees. A similar feature is that of supplying films for university use.

So, both in clubs and in institutions of learning the Union brings features of visual inter-American progress

(Turn to Page 31)





# AROUND THE WORLD

With

## HERFORD TYNES COWLING

### A NATIVE INDIAN DURBAR

#### Trip Number Six

**S**IR Pratap Singh, Maharajah of Kashmir was dead. I read again the newspaper account and what a flood of memories it brought back to me. Many happy months I had spent in that glorious part of the earth, so close to the heavens, known as the Vale of Kashmir—far up in the northern most part of India, nestled in the foothills of the Himalayas and next to the famous Khyber Pass. Sir Pratap I had known and seen often during my sojourn in India. The orthodox old Hindu ruler never quite approved of his nephew, Sir Hari Singh, Crown Prince and heir to the throne, because of his friendship with foreigners and his reform ideas.

What did the future hold in store for Hari Singh now, I wondered; would he succeed his uncle and become the ruler of one of India's most powerful states? Surely, if not an orthodox Hindu, he was popular with the British Raj and that was even tantamount to succeeding his uncle.

I remember how Sir Hari and I had planned the Durbar or royal court that *he* would put on when he became King. Far into the night we had so many times talked and visioned a real Indian Durbar such as his generations had never seen, but similar to the old time Durbars of his ancestors, the mighty Rajput rulers, as was Rangit Singh, "Lions of the Punja." I, of course, was to photograph the ceremonies and produce a motion picture film, the like of which had never been undertaken.

Well, several years had since passed and I was a long way from India, enjoying a vacation at my home in Virginia, the first for about fifteen years.

Shortly after seeing the account of Pratap Singh's death, I received a cablegram from Hari Singh telling me the news and requesting my presence at his coronation, principally for the purpose of making a motion picture film record as we had planned. There was little time to hesitate or make plans for the trip, since the only boat that would make connections to get me to India in time for the event was sailing in exactly twenty-four hours from New York.

In addition to film supplies, lights would have to be taken for some events that would be held inside the palace. In spite of the almost seemingly impossible task of getting together the necessary paraphernalia for so long a trip in such a short time, twenty-four hours later found me aboard the Aquitania on my way to one of the most colorful adventures of my entire life; the Durbar of the ruling Prince of India.

My dreams were coming true and before me unfolded a rare and gorgeous spectacle seemingly taken from the pages of the Arabian Nights. All foreigners had been excluded from the country that no modern dress, white helmets or umbrellas might mar the dramatic spectacle.

Hari Singh greeted me upon my arrival and such a dashing figure he made, still young and handsome, but with a new dignity in keeping with his new responsibilities. The ceremonies of the Hindu ritual had been in progress several weeks prior to my arrival and are too numerous to describe in so short an account, but immediately upon

my arrival I began preparations for filming the court scenes as well as immediate work on the scenes in progress inside the temples. Now, photographing inside a Hindu Temple was something that had never before been permitted, especially during a religious ceremony and it was only permitted on this occasion in deference to his Highness' wish.

Since, as a foreigner, I could not actually step inside the temple itself, openings were arranged through which the camera lens could be focused on the principal ceremonies of the ritual and I was able to photograph Sir Hari with all reverence performing Puja. At intervals during these ceremonies word would come that a visiting guest, a maharajah or ruling prince from another state was arriving by special train and custom required that he be met at the station by our prince in person. Ceremonies would be terminated for the moment while we dashed off to the station in one of the prince's many Rolls-Royces to meet and welcome the royal guest.

Fourteen ranking princes arrived, each with his own private train with many Sir Dars, or chieftains, hundreds of servants, tons of baggage and last but not least, troupes of beautiful Nautch or dancing girls.

I shall never forget Patiala, that spectacular prince of the Punjab. All of his chiefs were six feet in height and he boasts the finest flock of dancing beauties in the country. Patiala was his ever brilliant self, his huge body and turban fairly glistening with diamonds and precious stones. Again to the temple for more Puja, back to the station to greet another royal guest, to the temple again and so on for five days prior to the principal ceremony or Durbar.

Then came the day of days featuring a parade that lasted five long hours—the new Maharajah draped in emeralds and pearls of fabulous value mounted upon the largest elephant I have ever seen, rode through the narrow streets to the shrine of his forefathers where the sacred caste mark of his Dogra tribe was placed upon his forehead. The placing of this caste mark constituted the final act in the ritual which made him King of all the domain within the states of Jammu and Kashmir. Long live Hari Singh Maharajah Bahdur.

As Sir Hari Singh came out of his palace, he was dressed in a coat of gold, with ropes of pearls around his neck and yellow turban gleaming with diamonds and emeralds. His pearls alone were valued at about five million dollars. He was preceded by a group of dancing girls, who sang and danced before him until he reached the street, where the procession had stopped, awaiting his arrival.

Some orthodox Hindus maintained that he should ride a horse; others, an elephant. He compromised by having his favorite horse stand in attendance, with trappings set in emeralds and with a rope of emeralds around his neck. Custom decreed that he should pass by an ox and a cow with her calf, a goat and a sheep. He touched the horse and then mounted to the golden howdah on the back of that amazing elephant before mentioned. The ears and trunk of the elephant were painted in pleasing design.





Top Left—Princes and Rajas of Kashmir, also mounted on elephants, follow the new Maharaja in the royal procession. The gold trappings of these elephants cost over a million dollars and were especially made for the occasion.

Top Center—Spires of the great Hindu Temple at Jammu, Kashmir, where the coronation or Durbar ceremonies were held and Puja rights celebrated.

Top Right—His Highness, Sir Hari Singh, Maharaja of Kashmir, mounted on the largest elephant in all India—passing the Royal Palace

at the beginning of his Royal Progress through the streets of Jammu his capital city—during the Durbar.

Lower Left—The new Maharaja—Sir Hari Singh, ruler of the Indian State of Kashmir, with his A. D. C.s and private secretary (English).

Lower Center—Kashmiri dancing (Nautch) girls—long famed for their beauty.

Lower Right—The Prince—Sir Hari Singh—performs "Puja" a Hindu religious ceremony of purification—preparatory to receiving the Raj Tilak mark of the royal office to which he succeeded during the ceremony.

The anklets and headpiece were fringed and the trappings were all of solid gold. The mahout wore a golden costume and so, too, did the attendant who sat behind him. Such a magnificent study in gold I had never seen before nor do I expect to see its like again.

From every housetop and window cries of acclamation went up as the procession wound its way through the narrow streets, some of which were only ten feet wide and barely roomy enough to permit the elephants to pass in single file. There must have been a quarter million of spectators in Jammu that day and yet there was hardly a woman in sight. Like the public celebrations among the Hindus, this was strictly a "man's show."

I had selected the places beforehand from which I was to take my pictures and as I moved from point to point, it seemed to me that the roofs would be crushed and broken down by the masses of shouting, loyal subjects and guests who had come from all parts of India.

First in the procession came the state flag mounted on a male elephant; then the state drums on a male elephant; one and one-half squadrons of cavalry in field service kit; one battery of artillery; one battalion of be-medaled infantry with band; twenty-five led horses, each with saddle cloth of brilliant color and a syce, or groom, in gorgeous costume (the horses at the disposal of the guests in the procession—though bold the one who would have ventured to ride!); the state band in full dress; the army headquarters staff in scarlet full dress; ten asabardars, or attendants, carrying heavy staffs of gold; the elephant of the Maharajah surrounded by one hundred bandukies, or spearmen, dressed in white with orange turbans and sashes; his personal staff mounted; riding on two elephants, the four rajahs who pay tribute to the Maharajah of Kashmir—the Rajkumar Sahib, the Rajah on Poonch, the Rajah of Chinani and the Rajah of Ramkot, twenty-five cavalry officers in full dress; six elephants in single

file with painted faces and brilliant trappings; one battalion of infantry; one battery of artillery and one-half squadron of cavalry all in field service kit, etc.—five hours of it.

Then followed a public Durbar in an open court of the palace where each of the chiefs and public officers passed in an obeisance ceremony before their new ruler. This ceremony consisted of presenting a newly minted gold coin on a silk handkerchief as an act of tribute or obeisance to their new ruler and was their first act of fealty. Following the public Durbar were two days of private Durbar when rare gifts were received from all over the world. The end of the week of ceremonies was climaxed by a grand banquet attended by all the ruling princes and was a gala occasion. Turbaned and bejeweled princes ate from dishes of gold and shared in the joy and celebration of the new king. Many of the orthodox Hindu guests did not particularly fancy the idea of a motion picture camera being present and recording the event while they were eating and no doubt this remains as the only motion picture film that was ever made on a similar occasion.

Following the more serious and formal celebrations was a Holi Durbar or burlesque affair, the final entertainment of the celebration. To this the new Maharajah invited only his best friends, every one dressed in white, and they spent the afternoon in horse-play, throwing varicolored dyes on each other with squirt guns. The filming of this hilarious ceremony concluded abruptly when the Maharajah playfully decided to turn his squirt gun in the direction of my cameras, but not until I had made a very interesting film record of the event. Before I hardly knew it I was on my way back home. Two weeks in India and such an eventful period, I had filmed a ceremony costing more than twelve million dollars, the like of which will probably not be seen again in modern India.



# MOTION PICTURE SOUND RECORDING

## Chapter IV

**I**N earlier chapters, the fundamental principles of sound recording and the various forms of sound recording devices employed by the different recording systems were considered briefly. Last month the characteristics of sound waves, of human hearing, and of musical instruments were discussed. Now that the introductory work has been completed, this and the following chapters will be concerned with the actual sound recording equipment, its functioning and its operation.

For greatest convenience in study, it is desirable to consider that a sound recording studio employing Western Electric equipment is divided into five main divisions. These divisions comprise (1) the sound stage and the microphone equipment, (2) the monitor room and the monitoring apparatus, (3) the main amplifying equipment, (4) the wax recording machines and the wax recording device, and (5) the film recording machines and the film recording device.

These divisions are connected by an intercommunicating telephone system and a special signal system, which makes possible co-ordination within the divisions and between the sound department and the director when sound recording is being done. In addition to these main divisions, there is the re-recording, or dubbing, division, which will be discussed separately because it is not directly affiliated with the actual sound recording on the stages.

In the next several chapters on sound-stage apparatus and on monitoring, no mention will be made of the portable monitoring equipment and the manner in which it is handled; for the similarity of the portable and permanent monitoring equipment is so marked that it is unnecessary to describe them both in detail. The technique of indoor and outdoor monitoring differ somewhat, but not so radically that a monitor man who is experienced in indoor monitoring cannot do an excellent job of outdoor monitoring without further training. In monitoring, as in all phases of sound recording, it is purely a matter of knowing the equipment and its functioning, and then applying that knowledge leavened with "horse sense" to its operation.

### *Portable Recording Equipment*

Outdoor recording is done with two styles of recording equipment: The trunk type and the sound-truck type. The trunk type sound equipment is divided into a number of complementary units, and each unit is built into a strong, trunk-like box. When the equipment is set up for operation, the trunks are opened and connected by suitable cables. One trunk contains the monitoring equipment, another the main amplifiers, and a third the film recording machine. Other trunks hold the microphones, cables, film magazines, batteries and like accessories.

The sound-truck type portable equipment is permanently built into a large enclosed truck, and is a simplified duplicate of the permanent indoor recording equipment. The monitoring apparatus is similar to that employed with the trunk type equipment, and is arranged with cables so that it may be operated up to a distance of three hundred feet from the sound truck. Both types of portable monitoring equipment employ special high-quality headphones in place of monitor horns. The microphones are

By

CHARLES FELSTEAD

*Associate Editor*



also equipped with sectional cables, which permit them to be placed several hundred feet from the monitoring equipment, the cables thus making it possible to set up the microphones and the monitor trunk in locations where the portable truck may not be driven. There have been cases where the microphones and monitoring equipment have been placed as much as 1800 feet from the sound truck.

The trunk type portable equipment is used for outdoor recording in locations entirely inaccessible to the sound trucks, such as in jungles, in mountainous regions, in air-planes and in similar places where a truck could not be driven or its bulk and weight prevent its employment. The sound truck is preferred for all location recording because of the ease and dispatch with which it can be placed in operation.

Certain studios also use sound trucks for recording on stages that are not equipped with permanent recording channels. The sound truck is driven into a shed built against the side of the stage and the monitor trunk and microphones set up inside the stage. The cables are passed through small openings in the wall of the stage. The resultant saving in equipment is rather considerable.

### *Sound Stages*

All indoor monitoring takes place in large sound-proof structures called sound stages. In the days of the silent motion picture, immense enclosed structures, like overgrown barns, were used to protect the "sets," lights and other equipment, and the actors from inclement weather. In those days they were called simply "stages"; and, in addition to acting as shelters, they served to prevent variations in the intensity of sunlight from affecting the photography, allowing the more satisfactory artificial lighting to be used entirely. There was no necessity for sound proofing nor concern about the amount of reverberation of sound that was present in the stages.

The introduction of sound recording changed all that. It became necessary to sound proof the stages to prevent the intrusion of noises originating outside the stages; for any infringing sound would be picked up by the microphones and recorded along with the actors' voices. Modern sound stages are of a double-wall construction that practically excludes the possibility of outside sounds penetrating to the inside of the stages. There is an air space between the walls; and the walls themselves are covered on both sides with sound-proof material.

Low-frequency sounds, such as the rumble made by a heavy vehicle, are readily transmitted through floors; so special precautions are necessary in the construction of the floors of sound stages to make them poor conductors of sounds of low pitch. In some studios the wood floor of the stage is floated on a sub-floor, with the space between the floors filled with sand.



Sounds of higher pitch, such as produced by a factory whistle, are transmitted more by the air than by the ground; and it is to prevent the passage of these higher-pitch sounds that the double-wall stage construction is provided. So it will be seen that the methods employed for filtering out low and high-frequency sounds are entirely different.

Walls constructed of wood or other hard material are highly reverberatory. Being an enclosed space, the interior of a sound stage would be a bedlam of reverberatory noise whenever a loud sound was produced within the stage if the walls were not covered on the inside with some sound-absorbing material. Flaxlinum, Celotex or balsam wool are usually employed for this purpose; and the entire inner surfaces of the sound stage, including the ventilator shafts and overhead runways for lights are covered with one or more of these materials. Heavy cloth drapes and quilts padded with rock wool are often hung over portions of the interior walls as additional insulation from sound originating on the outside, and to lower the period of reverberation of the stage. This matter of reverberation and its great importance to the monitor man will be taken up at a later time.

Most sound stages in Hollywood are about 100 feet wide by 50 feet high and 300 feet long; but sometimes they are larger than that, one stage having a width of 150 feet and a length of 450 feet. There are no windows in the walls of the sound stages; and the double doors that are employed are constructed like the doors of safes and are extremely heavy. The doors are high and wide enough to permit entire walls of sets to be brought in without dismantling them. A ventilating system is provided for each stage; so, except in extremely hot weather, there is no need to open the doors during shooting hours. Most sound stages are designed to be more than eighty-five per cent impervious to sound.

### Microphones

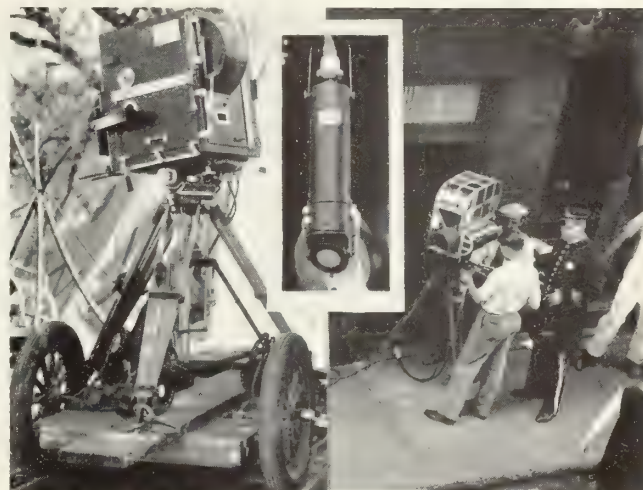
The constructional features of the various microphones used for sound recording were discussed briefly in an article published in the August, 1933, issue of this magazine, and the reader is referred to it. That data will not be repeated here, since this chapter is concerned more with the practical features which affect the use of microphones in sound recording.

The Western Electric recording system employs two distinctly different types of microphones, the condenser microphone and the dynamic microphone. The condenser transmitter is only about the size of a doughnut; but it has the disadvantage that it must always be closely coupled to its amplifier. (The combination of transmitter and amplifier constitutes the microphone.) The resulting device is very heavy and cumbersome to handle, especially when it is out on the end of a microphone boom. The dynamic transmitter is about the same size as the condenser transmitter; but it is connected to its amplifier by a cable about fifty feet long, providing a sound pick-up unit of light weight that is easy to manipulate.

The condenser microphone is constructed in one-stage and two-stage models, which receive their designations from the number of stages of amplification incorporated in the microphone amplifier; but the dynamic microphone is built only in the two-stage model. The one-stage condenser microphone is used for recording sounds of ordinary level; while the two-stage model is used principally when very weak sounds are to be recorded. Monitor men often use both one and two-stage microphones simultaneously to record two sounds originating a little distance apart when there is a considerable difference in intensity of the two sounds.

Either type of microphone is connected to the controls in the monitor room through long, heavily insulated and shielded microphone cables, which plug, on one end, into

a junction box mounted on the wall of the sound stage, and into the microphone amplifier on the other end. Lock plugs are provided on the ends of the cables to prevent them being accidentally pulled from the jacks. The shielding of the cables and the metal shells of the plugs are grounded. The cables are furnished in various



Left—A metal blimp of latest type. Mounted on a platform for travelling shots. Courtesy Paramount Pictures.

Center—Condenser microphone. Two stage type. Courtesy Universal Pictures Corp.

Right—Lightweight celluloid blimp over camera on regular tripod. Courtesy Universal Pictures Corp.

lengths; and if necessary several of them may be coupled together for greater length. The junction box on the wall provides outlets for six microphones. The 200-volt plate-supply battery that is required by the microphones is installed in the junction box.

The microphones must be placed within a reasonable distance of the actors whose voices are to be recorded; and, since those actors move about in performing their parts, it is necessary that the microphones be moved to accommodate the action. When sound was first introduced, the microphones were hung from the overhead runways; but that arrangement was unsatisfactory because it did not permit the microphones to be moved about during the "take." An improvement on that method was brought about by attaching the end of a fish pole to the suspended microphone. By moving the fish pole, the microphone man was able to move the microphone through an arc; but at the best that device was crude.

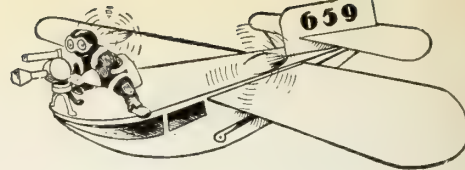
A great advance was made along this line when the adjustable microphone boom was developed. The microphone boom is a counterbalanced derrick-like affair with the microphone suspended from the end of the derrick arm. Several adjustments are provided, which allow the boom arm to be raised or lowered, to be swung around in a circle, and to be extended or retracted. Since the mechanism is mounted on rubber-tired castors, it may be rolled along during a take to follow a "traveling shot." A single man can operate the boom and swing the microphone smoothly and swiftly to any position. The boom operator is called a microphone man.

### Camera Motors and Blimps

The motion picture cameras are driven by special three-phase motors in the Western Electric system; and these motors are connected by heavy motor cables to the master motor control system, which also drives the recorder motors and keeps all the motors in synchronism. These motor cables are plugged into heavy jacks on the sound stage wall. The master motor system starts all

(Turn to Page 22)





This is not a miniature. It is a full fledged set done in the temper of Winter in Old Patee. It was discovered one hot day on the Paramount lot by Leslie Rowley who was browsing about with his Graflex looking for some unusual photo game. Here it is all but sound — the moaning winds of Winter.

## A Group Called Cameramen

(THEY KEEP THE STARS SHINING)

As an integral part of the great motion picture industry there is a group of men known as the International Photographers.

They are the men who manipulate the motion cameras—who direct the photography of the photoplays and, in number, they are somewhat less than 800 men of all ages.

In this group is numbered also the men who make the still pictures that form the exhibits by which the motion pictures are sold to the distributors and exhibitors.

Most of these still men are pictorialists and artists, many of them of international fame, through their many exhibits in salons in America and abroad.

Many of these motion picture cameramen are experts of the highest attainments in lighting and, after all, effective lighting is the sine qua non of photography of any kind.

Then there is a group called assistants, many of them scarcely less expert than their superiors, the chief cinematographers, and the "operative cameramen," which latter actually handle the mechanism of the camera in production.

Every day these men are on the studio sets or on locations, near or far, photographing the pictures that are to be shown on the screens of theatres throughout the world, and they are universally thought of in terms of camera-craft.

But you'd be surprised—for the camera-craft is the least of the life activities of this group of men just casually referred to as cameramen.

It would require a complete book the size of this maga-

zine to go into detail regarding the individual activities of this camera "group," but brief mention may convey to the reader's mind a fair idea of the players on the stages of their respective private lives.

Here is talent galore and of every kind—gold mines of it.

The inventors are numerous with patents or patents pending on everything from a score of different cameras and a hundred or more camera devices to Diesel engines, color processes, dental supplies and electric lamps.

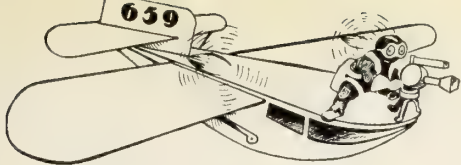
There are two ex-attorneys and several school teachers, one practicing dentist and dozens of M. A. and B. A. degrees.

There is one clever lexicographer, half a hundred chemists, one microscopical expert, a couple of hundred ex-soldiers, three taxidermists, a pharmacist, one meteorologist, two mining engineers and a metallurgist.

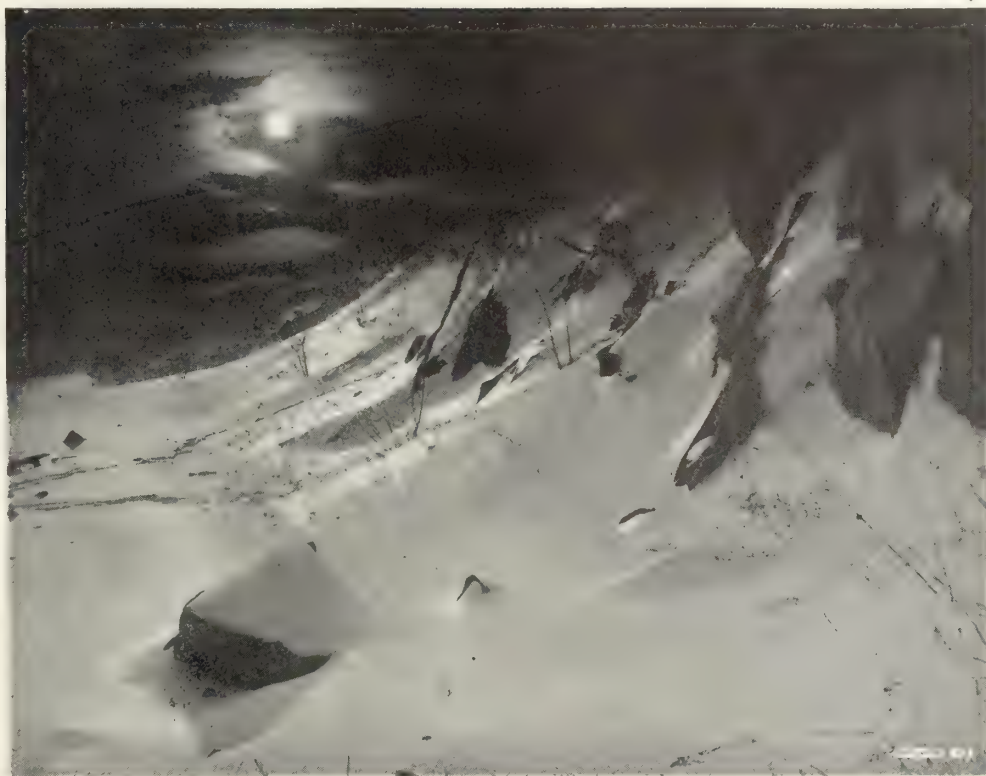
The musical talent is abundant—many good pianists, two or three concert pianists, enough singers for twenty male quartets, enough musicians to make up a symphony orchestra, a band of 100 pieces and half a dozen more bands like the popular dance orchestras of today. All these have been checked up.

There are two organists as good as any you read about, a 'cello virtuoso, a mirimba artist and a few professional dancers.

There are many excellent public speakers, a few capable of lecturing on timely subjects, also a considerable number of headline actors, comedians, minstrel performers and vaudevillians.



George K. Hollister, senior, is one of the cinema's pioneer still photographers. In this case Mr. Hollister caught an entrancing view of the summit of Mount Lowe under the cold moon of Winter—a rare shot considering the balmy weather of California. Mount Lowe is less than twenty miles from Hollywood—if you care.



Engineers are numerous—embracing thermal, electrical, mechanical, sound, mining, hydraulic, etc., and besides technicians of many kinds.

In the personnel are a number of clever writers, capable even of measuring up to book composition, technical subjects, novels, travelogue, etc. (Oh, if the editor could only get 'em to write!)

One or two clever composers, song writers and poets, lend lustre to the group and two at least can write plays, while literally scores can write surefire scenarios and some day will be getting rich at it.

Three horse trainers, one wild animal trainer, a dozen breeders of blooded dogs clutter up the records and this reminds the writer that some sixteen of the cameramen have in the last few years become directors.

Besides all these there are architects, a bond expert, an

ex-jockey, a former first class boxer, two wood carvers, many former laboratory operatives, a book binder, a wonderful embosser of leather and at least two of the cleverest cartoonists in the country, and a number of first class physicists.

There is one man who might truthfully be called Leonardo di Vinci, Jr., for he can write, model in clay, paint in pastels and oil, write fiction, play the organ, piano and 'cello, compose music—and all in addition to being an expert laboratory operative, an unbeatable cinematographer, pictorialist and special process expert.

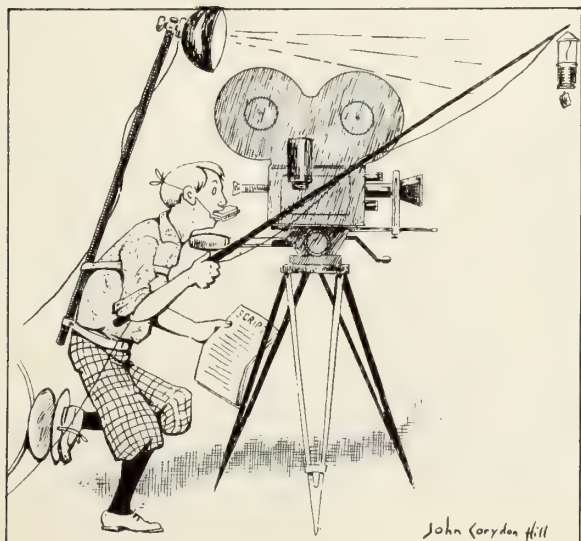
Also on the list is a grower of iris flowers, unequaled in California.

A brass foundry expert, a designer in ornamental iron, several chefs, sixteen aviators, many radio experts, parachute jumpers and a television researcher lend variety to the group and, to cap the climax, the group claims in its ranks a first class hotel man, several marine navigators, first class chess players, lens designers, thirty-nine globe trotters, a glass blower, many fine special process experts, a dozen death defying stunt men and machinists of several kinds.

The cameramen have no police record and in quality of citizenship they bow to no other group of workers in the motion picture or any other industry on earth.

## ERPI REPLACEMENT

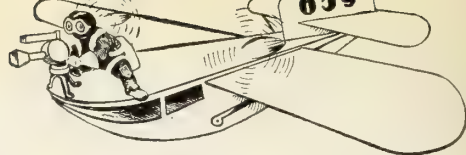
More than 1,500 theatres have signed one year Repair and Replacement Agreements which were recently offered by Electrical Research Products, General Sales Manager C. W. Bunn announces. Among the larger chains that have availed themselves of this contract are the Golden State Theatres of San Francisco; the Poli New England Chain; the Walter Reade Theatres in New Jersey and New York and the Crescent Amusement Chain in New Orleans.



What the average cameraman could do if the "Code" called for it.

Please mention The International Photographer when corresponding with advertisers.





The place to shoot Christmas pictures in California is up on the Truckee River, where the movies go to get their Winter stuff. This particular shot was a whim of Frank Bjerring, who at the time was looking for a Christmas eve sunset with Christmas trees and everything.



## THE CAMERA IN THE EVERGLADES ON AMERICA'S LAST FRONTIER

By ESSELLE PARICHY

**T**HE Florida Everglades is America's last frontier today. It is a vast trackless, aquatic waste land spreading over central Florida, with jungled swamp and island-like oases along lagoons and slush waters that baffle the white man.

Miles and miles of Everglades land stretch out in impenetrability like a canopied stockade, admitting no human passage. In the inner heart of the Everglades there is an eerie sense of unrealness as wild as prehistoric time, palpitating in humid intermezzo as though Nature had turned back the Geological Time Clock upon a Mesozoic Age minus the grotesque dinosaurs and the thundering brontosaurus that plowed the earth in that incandescent past.

These hinterlands in spots truly symbolize the great Paleozoic period that wedded Nature with the traverse of Time . . . a land sargasso of life and decay . . . birthing and dying in the sweet rankness of growing, of growing things, mingling with the tissues of the dead that the scavenger buzzard devours in its ghoulish flight . . . here every wild thing blooms with deceptive sweetness, pungent in haunt, as if Mother Nature had bolted all the beautiful things too sweet to endure and spewed them up again in violence all over the counterpane of this vast area.

Aromatic seem the wild smells under the topaz sun in this riotous isolation of everglade fastness . . . water hyacinth and lily bloom with enthusiasm acre on end . . . cat-tail and sawgrass sway rhythmically in the humid breeze,

while communities of swamp lettuce fringe the muck edge of the big cypress, moss covered and silent, obliterating all beyond the velvet fringe that hangs raggedly below an amethystine sky.

Here and there wide areas grow more openly admitting serpentine canals that wind leisurely dotted thickly with lichen vegetation, cradling the white plumed egret and blazing flamingo and other brilliant winged life who hold sway in this wild abode, while the alligator and moccasin slink through the dense under waters.

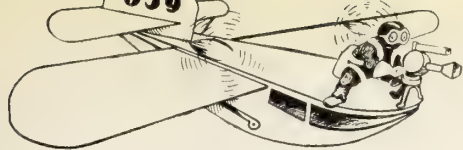
Futility is the fruit of man's effort to tame this wilderness that has known no master since the beginning of Time. Aloof and defiant to humankind, it stands violent against man's trespass.

It is only the tribal Seminole that has fathomed the secrets of the Everglades. Here he dwells in seclusion, roaming through and along the bayous of this swamp land eking out a meager existence. The Seminole is a remnant of the Florida aborigines and a fast vanishing race.

Civilization has touched this race with an unkind hand. The history of the Seminole is deeply seamed by the claws of tragedy to a persecuted race. He lives apart as much as possible from his pale face brother and calls no man master, while he solves the problems of life in his own primitive way, happy and contented as the days pass him by.

In immobility he stands gazing at the vanguard of





Bert Anderson takes them as he finds them and Old Boreas, himself, would delight in such a panorama of Christmas beauties—the snow, the icy stream, the dark skies, the forest—all that's lacking is a bob sled and a party of merry makers bringing in the Yule log. The Eskimo looking folk across the river are a couple of cameramen looking for a place to set up.



civilization marching past. The proud lineage will ever hold fast to old traditions and glories of Osceola.

True, he has adopted some of the white man's ways . . . the gun, cooking utensils and the hand sewing machine, and too, some of the white man's iniquities have sifted through his creed, but he has changed little since Ponce de Leon landed on the Virgin shores of Florida.

It is indeed a strange sight to come upon a bevy of Seminole squaws on Miami's busy thoroughfares among the pulchritude and fashion of the world's elite that migrate here during the winter months . . . these Seminoles with their bare feet, long sweeping dresses of myriad hues . . . their necks weighted down with strand after strand of glass beads.

However the city streets do not see them often, as they prefer the open spaces of their habitat.

Seminole women are not permitted to wear shoes under the laws of the Indian code, and this along with the law of virtue is guarded well, under the penalty of their cruel tribunal which deals out death and torture to the

guilty in their own manner. Strong codes do these Seminoles observe in their tribal laws and court is held several times a year in the deep fastness of the Everglades.

In their desire to keep the race clean of crime they do not hesitate to exterminate or banish those members who have broken the faith and laws according to the Seminole statutes. Favoritism is unknown among these people when justice is dealt out . . . the son of a chief is shown no more consideration than the offspring of a common squaw.

The Seminole is a great hunter of the alligator. It is his money crop, a tangible commodity for quick cash. He poles the shallow currents and burrows, not much wider than his canoe, in quest of these saurians that lie dormant along false hideouts honeycombing the muddy banks.

He lures the 'gator by grunting a guttural sound imitating the mate call. The Indian approaches cautiously, silent paddling until he comes upon one of these reptiles.

To capture these 'gators alive he has learned from long experience that he must be alert to escape the vicious lashing of the powerful tail, and so seize the head of his quarry that the jaws are held tightly closed until roped and hauled into the canoe. There can be no false movement here as it would mean the loss of leg, arm or death to the hunter, but the dexterity of practice has made the Indian adept at this dangerous game. He always prefers to capture these amphibians alive for the remuneration is greater in trade.

Often the stomach of one of the fifteen or sixteen foot older 'gators proves to be a veritable junk shop when disemboweled after a kill. They sometimes hold an assortment of astonishing undigested gadgets such as iron bolts, watch cases, belt buckles, old shoes and many other grim diaries of unwary and unfortunate victims.

There is nothing more tragic than to see a young squaw, widowed, and heavy with first born, silently cooking her midday meal apart from the tribe . . . her hair torn down and minus the neckload of beads which she had

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The Seminole Indian bucks wear costumes almost like those of their wives.



# LIGHT REFORM IS PENDING

By F. MORRIS STEADMAN

**T**HE people struggle long and painfully in giving birth to an idea. We may excuse ourselves somewhat for the present popular ignorance of light by taking note of the birth struggles of other ideas which are now taken for granted and taught in all schools.

Take, for example, decimal notation: In Mexico, before the Chinese were banished, all banks had an abacus on their writing table with which these people could compute their money problems. The abacus is made up of a series of wires with seven buttons on each and a dividing strip which confines five on its left and two on its right. These balls represent the two hands and the five fingers.

This decimal counter was used for a thousand years before a way was found to write numbers freely as it is done now. This long delay was due solely to the fact that it did not occur to anyone to use a sign to fill in the space when no value occurred, as in tens of thousands. For example: 104 could not be written out because for a thousand years no zero sign was thought of to fill out the tens column. For that simple truth or plan—a thousand years. Then it took another few centuries to discover that a point could be placed at the right of the unit and the same plan used for writing decimal fractions.

In these days of many discoveries we are inclined to feel that we are a right brilliant people and it is hard to believe that we are as torpid as ever.

Let us locate this dumbness now in the matter of using light. First note the wonderful activity of photography: It employs labor and capital. It manufactures many things, including cameras, lenses, shutters, chemicals and sensitive products, as—films, plates and papers. It is used in astronomy to locate and map star systems which the strongest telescope cannot reveal to the eyes. It pictures also the unseen minutia of nature with the microscopic camera. It gives us portraits and scenes. It reveals with the X-ray defects in structural metals and locates foreign substances, bone fractures, etc., in our bodies and maps our organs so that they may be treated. Even the movements of the heart are now pictured. The infra red rays penetrate the mists and give us views that the eye cannot see. The ultra violet and infra red and other rays are used for the treatment of disease and the ordinary electric light even fools the hen into laying more eggs. From photographs taken from the air, almost impenetrable stretches of country can be mapped.

Photography gives us motion and sound pictures and will soon add scenes to the radio program. It gives us the vast field of illustration for news, education and entertainment, detects crimes and forgeries and pictures newly explored regions for us.

But here enters the result of our torpidity: As wonderful and useful as photography is, its own particular processes, as in exposing, have been left without scientific guidance in the schools.

For example: We know that a brighter subject, a larger stop and a faster film, all permit and require a shorter exposure, but we have no unit for measuring either the subject or the stop and for lack of these units we cannot say, in seconds, the speed exposure for any film. That is—the correct exposure to take a one unit brightness subject with the unit stop in the lens.

Here now is our blindness: A certain thing has been taught as the truth concerning light in the schools for some 300 years, still, we ordinarily do not find it at all strange that the students who have studied light make

only "snap shots" with their cameras, guessing or hoping that they will get results.

Ask yourself the simple question: If light were taught correctly in the schools would not students know how to use it in their cameras? Many physics teachers are awakening to this absurd situation and feel that something is radically wrong with the way that light is now taught.

With the subject brightness and the lens stop known in simple physical units and the speed of film known, as based on the time required for photographing under those two unit conditions, all physics students would be able to expose correctly even at night by electric light and after sunset, and also to make motion pictures with the correct stop. If they cannot do these things then they have not learned the truth of light. That is the stage that the schools are now in.

As discussed fully in my article in this magazine for August, 1932, this misleading influence which has been taught for 300 years is the "Point Source" theory of light intensity and the accompanying statement that "light weakens by spreading." No account is taken of any other play of light except that which spreads from a technical point source. Since nature knows no point source, that idea is, of course, purely theoretical and inapplicable to nature. In nature, illumination results from the functioning of whole or entire light sources, whether the full sky or a small flame and, therefore, it is a simple statement of fact to say that light, as it functions in nature, has never been taught in the schools.

It took some time for the illuminating engineers to fix the standard candle, which they decided should burn 120 grains of sperm per hour. The scientists then proceeded to annihilate the flame for the student by asking him to observe only the spreading of light from a single point upon it. Ever since photography was discovered, photographs have been taken only by the convergence of light from the whole area of some lens stop to each grain of sensitive salts in the film, and we have furthermore built into lenses a means of making the stop larger or smaller as required. Yet the authors of the physics books deem it sufficient for the student to study the technical point and the light which spreads from it.

The study of light and the use of it in photography have been thus separated, as I have said, ever since the discovery of photography, or about one hundred years, but the signs point to the fact that we are about ready to discard the point source theory and put the study of natural light sources in the school books. In closing this article it will be well to observe the error of having restricted students to the study of spreading light only:

Light spreads whenever the thing illuminated is larger than the light source and converges when the opposite is true. This is a purely local and incidental circumstance of illumination and has nothing whatever to do with the problem of creating intensity. For example: We step out of doors and find ourselves illuminated by the whole hemisphere of sky, the light converging upon us. But the sky light which comes through a small hole, as in an opaque window shade, would have to spread to illuminate us. Again: Consider a small flame, its light naturally spreads out in all directions. Yet if we place a grain of chalk on some surface and hold it against the flame, the grain will be illuminated by light which converges upon it from a hemisphere of directions, just as we are illuminated under the full sky.

But no matter whether the general play of light is

(Concluded on Page 26)

# It's A Genuine ACHIEVEMENT

... There is no doubt on that point in the minds of the cameramen who are using Eastman Background Negative. In its amazingly fine-grained emulsion they find the perfected medium for their composite shots. They benefit, also by a speed seldom found in the presence of such minute grain.

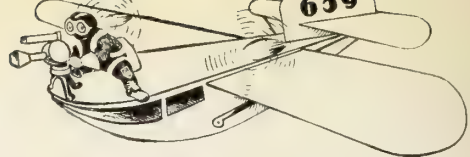
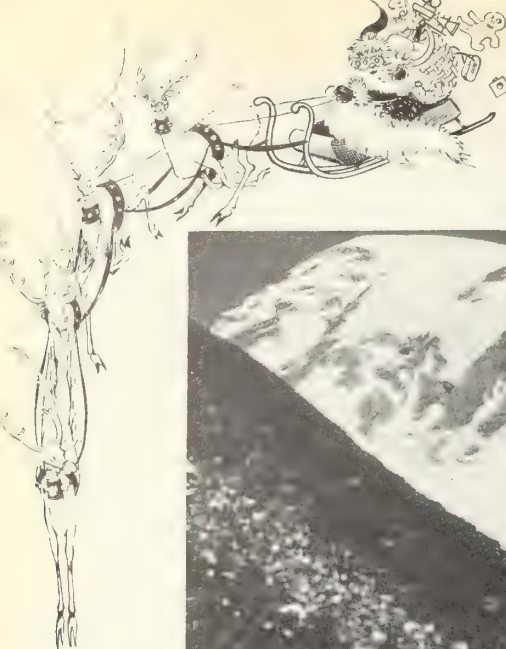
... This Eastman film achievement is a challenge and a promise to every enterprising cinematographer. Nothing would please us more than to work with you in your exploitation of it.

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The high Sierras as seen with the lens of Walter Van Rossem's good-box on the day before Christmas. Note the beautiful mountain path, the gorgeous flowers in the foreground and the snow clad peak dominating the whole theatre. What a subject for natural color!

## Lab. Men of the Past, Now and Tomorrow

By AN OLD TIMER

The recent strike of film workers brought together a lot of people who had not met each other for many years. Such a group met by chance on the curb at the corner of Selma and Cahuenga Boulevard, Hollywood. The group, composed of Tom Parsons, James Crosby, Robert Brotherton, Hank Kohlar, Jake Kull, Earl Hinds and Otto Himm—all worked in the lab of the old Selig Studios, Chicago, during 1904-5 when the plant was in its heyday, processing two million feet of film a week.

Naturally the conversation turned to a discussion of old day methods against the modern way—and a few guesses of the future—of motion picture making. Although some of these men have drifted from producer to cameramen that old devil *laboratory* still remains their first love and they are always ready to combat the boasting of the newcomer whose only accomplishment of note (according to our way of thinking) is in the improvement of mechanical equipment for speed and mass production—which never creates and, therefore, never can be art. The principle is still the same—the rose is still a rose whether you call it “gamma” or bunk.

An interested audience had now gathered around and somebody asked: “But how about our developing machine with its freedom from handling scratches, mutilations, etc.?”

Yes, that’s an improvement, but you must not say new. The writer designed and worked at the old Phoenix Lab in 1903 a drum machine whereby a 400-foot roll of negative was slipped on a spiral shaft and fed itself through all the operations of developing, fixing and polishing, without having been touched in any manner (like the well known advertised product) by human hands.

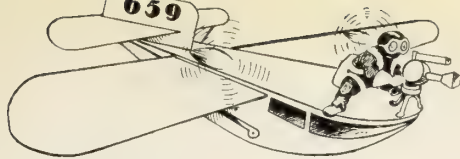
“What about your grainless negative?”

There is no such thing—all have grain. It’s the pattern of grain that counts. If you are skeptical just under-expose and force developing, then see if there is any magic in borax. From the depths of a much handled purse appeared a strip of negative of the Johnson and Jeffries prize fight film made when lenses were slow and negative film slower. Compare it side by side with modern negative (here’s a good glass). You see the grain is about the same, the printing quality about 14 B&H. It is quite free from chemical veil and is very even in its mass dense portions. Now, let’s examine a sky or sea negative and you must agree that borax is not so hot.

This old negative was developed as follows: A Pyro 2-grain to oz. to 20% equal sodas, the sulphite being made neutral, no restrainer used, the method of handling was the drum (this was before tanks were adopted in the United States) the Watkins Thermo System was employed; the strength or coefficient of the developer was ascertained by strips and Watkins log; the only variation in time would be caused by temperature or a different maker’s raw stock and in this case the appearance of the high light and the soups factor decided the final time. So we’ll say that sensitometry is not so new—it’s only still calling the rose a pansy.

We not only copy the old pathfinders of the lab, but also in the production of the picture. If you have attended many shows lately you will have observed that every two out of three will have somewhere in their dialogues: “Gee, Bill (or Jake, or Jim—as the case may be) but you’re sweet,” and the very latest is without exception—“Come up some time”—which makes one wish it really were a Mae West picture.





On location with Charlie Chaplin's company filming "The Gold Rush." The man up ahead pointing is Rollie Totheroh, for two score years Chaplin's chief cinematographer. He is giving orders for the camera set up. Every day was Christmas on this picture. Edward B. Anderson made the still.



This is to show how the whole industry just copies, the photography is as good or bad; the output of all the studios looks alike. If it were not for the final "The End" title, one would hardly know where one picture ended and the other began or when to go home. Well, what to do? That's easy. All of the big world enterprises conduct research laboratories. In our industry millions are wasted, but not one cent for research. Any experimental work that is being done is by the 16 mm. amateur and Eastman who, useful as they have been and always will be to photographers, have their own commercial side to care for.

Until the re-birth of sound (talk to Mr. M. L. Physioc and his experiments with Edison 20 years ago about old time sound) the picture going public were about fed up and again it's about time to work for tomorrow's pictures. To the young enthusiasts there is a tremendous field and fortune in future pictures, but in your experiments go quietly and slowly, for, "Alas, progress always has and will make many enemies." One worker is developing a picture in the projection of which the screen's presence is not felt by the viewing public. The effect will be life itself.

Another old timer is processing film by vapours, another coats the back of the film with a dry developing substance that needs only a dish of clear water to develop and fix.

By the dozen workers are dabbling with colors; another will do away with the costly water washing; another a formula that gives a photographic image without the usual scratches, friction and handling (mark shorthand note) on the usual film which so distracts one from the story, but for the lack of that which makes the wheels go, progress will be slow if left to these enthusiasts and

the wide awake electricians will seize the opportunity to put in every home a picture without the aid of a developed film.

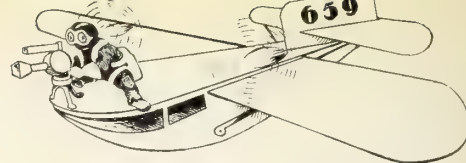
For the student of cinematography and of the miniature camera there can be no more welcome gift than a subscription to THE INTERNATIONAL PHOTOGRAPHER.

#### THE ASSISTANTS TALK IT OVER



"When do you think the Code will go into effect?"  
"A few days after I am out of work!"





William H. Strafford of the International Photographers at Chicago, sends along a jolly fine Christmas scene shot in the midst of a sugar-maple grove. Good, sharp eyes can discern the buckets attached to several of the trees. The locale is just a few miles from the center of Chicago.

## PEARSON TO DeVRY

Elmer Pearson, former Vice President and General Manager of Pathé Exchange, Inc., has become the new General Manager of Herman A. DeVry, Inc., the well known manufacturer of portable sound projectors and cameras.

Herman A. DeVry purchased the Q R S-DeVry organization last fall. Most of the smaller movie projectors and cameras of that organization, in the low price field have been dropped, and the new firm concentrated on high quality sound projectors and cameras.

Pathé was one of the leaders among theatrical organi-

zations, in establishing a non-theatrical department, and Mr. Pearson will bring to his new position a wealth of experience in that field.

The new connection brings together two of the really constructive pioneers in the movie industry, and should be productive of important results.

Mr. Pearson's first campaign will be the launching of the new DeVry Straight Feed Portable Sound Projector, the DeVry Double and Single Recording Camera, and the coming DeVry 16mm. sound unit, which he regards as a distinct advance in 16mm. sound achievement.

## Scientific lighting makes sparkling indoor shots



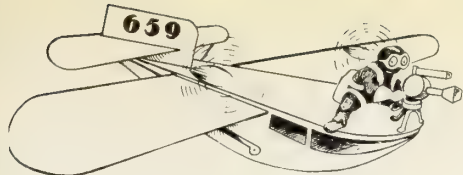
How Solite Reflectors Produce Daylight Illumination

With Solite Reflectors flooding the scene every treasured indoor shot is preserved with true daylight sharpness. Solite's exclusive mirror lens *doubles* light output at no extra lighting cost. Solite's scientifically designed Reflector *concentrates* light—eliminates wastage. A priceless aid to finer indoor movies and stills. Incidentally, a splendid Christmas gift for some photographically-inclined friend!

Solite Unit, \$7.50. With Jr. Tripod, \$11. Complete Kit (No. 3)—3 Solites; 2 Tripods; accessories; carrying case, \$42.50. (Prices slightly higher West of Rockies.) Write for full details to Solite Sales Co., 1373 Sixth Ave., New York.

## SOLITE UNIT REFLECTOR

*Preferred by the Light-Wise from Coast to Coast*

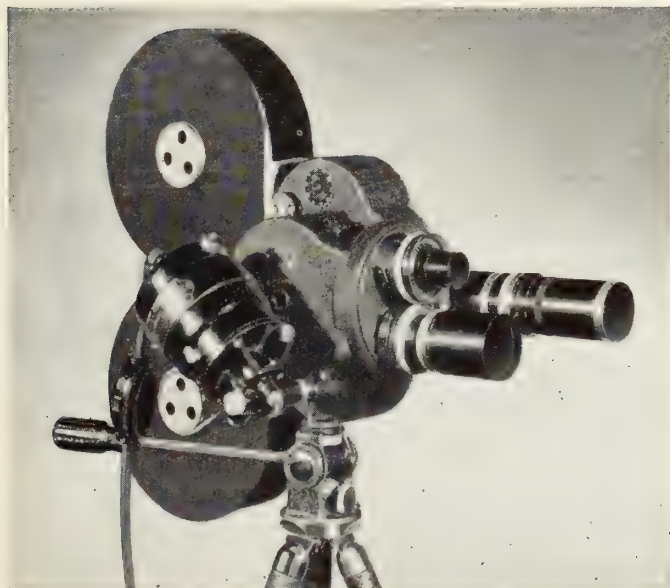


A wonderful aerial view of the celebrated Wright Glacier, Taku River, Alaska, shot by J. M. F. Haase, Chief Photographer of the United States Navy. The three airships are army hydroplanes flying in echelon over the glacier.

Marginal drawings of all stills by our art editor, John Corydon Hill.



# The Motor Driven **EYEMO** with Improved Viewfinder



THE new motor driven Eyemo, with its constant sound speed of 24 frames, now has a viewfinder especially designed for use with the camera's auxiliary magazine in place. The eyepiece is larger and at a more convenient offset angle. There's plenty of room to sight, even when wearing glasses. The new viewfinder, with its six variable field areas, is of the "positive" type. The correct field is seen regardless of whether the eye is "centered" with the eyepiece.

The Eyemo has, in addition, seven precisely governed film speeds, three-lens turret, Cooke 47 mm. F 2.5 lens, daylight loading spools of 100-foot film capacity, 200 or 400-foot film magazines, 12 or 110-volt electric motor, and built-in spring motor and hand crank drives. Write for full details.

## BELL & HOWELL

1849 Larchmont Ave., Chicago, Ill.; 11 West 42nd St., New York; 716 N. La Brea Ave., Hollywood; 320 Regent St., London (B & H Co., Ltd.) Established 1907.



## MOTION PICTURE SOUND RECORDING

(Continued from Page 11)

the cameras and recorder motors at the same instant, keeps them revolving at the precise speed of 1200 revolutions per minute, and stops them all at the same time. These interlocking motors are of the Selsyn type, and will be discussed in detail in a subsequent chapter.

Camera motors are now mounted directly on the side or top of the motion picture camera; but the original type of camera motor stood on the floor besides the camera and was coupled to it by a flexible drive shaft. The microphone man must care for the camera motors and cables as well as the microphones and their cables, in addition to serving as the contact man between the monitor man and the director. It is his duty to see that the equipment is brought out and set up on the sound stage at the beginning of each day's work, and that it is returned to the sound department for safekeeping when the work is finished.

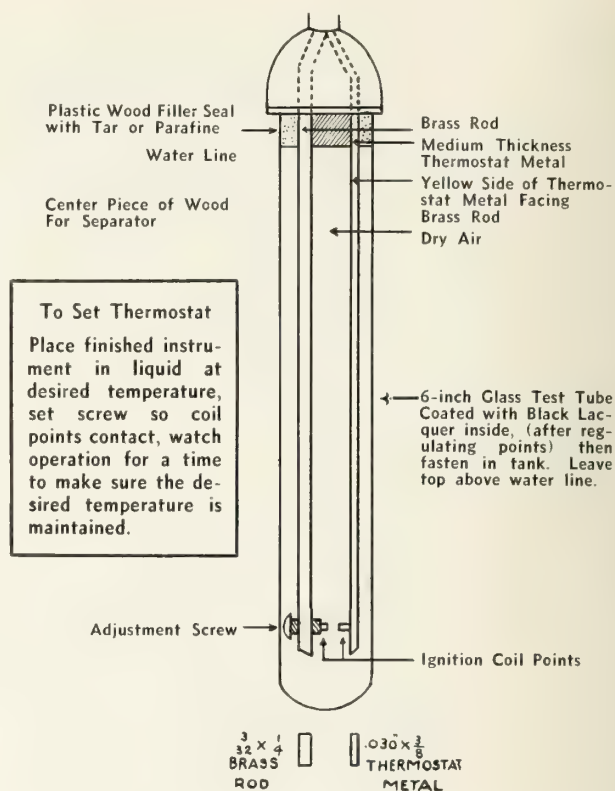
The noise produced by motion picture cameras would be picked up by the microphones and recorded if some precaution was not taken to muffle it. In the early days of sound motion pictures, small sound-proof rooms on wheels with walls that were heavily sound insulated were used. They were nicknamed "bungalows," or "ice boxes," by the soundmen; and they were so large that both the camera and the cameraman were enclosed by them. The scene was photographed through a window formed of two thicknesses of optical glass with an air space between them. They were provided with a heavy door like that of a safe. Needless to say, they were hot, uncomfortable places for the cameramen to work.

The ice boxes have now been replaced by smaller contrivances, called "blimps," that fit just over the camera itself, which is operated by controls that project through the walls of the blimp. One form of blimp is made of celluloid, and has a double-wall construction with an air space between the walls. It is very small and light in weight; and the sound insulation is sufficient for all ordinary purposes.

The type of blimp that is most widely employed is a heavy metal affair that is permanently mounted on a rugged tripod usually equipped with rubber-tired wheels. Despite its weight, the device is geared so that it can be turned swiftly and smoothly in any direction. The camera is slid into the blimp from the rear; and then the heavy door is clamped shut. The scene is photographed through a double-thickness window in the front of the blimp; and a second double-thickness window is

## THERMOSTAT

Paul R. Harmer, well known motion picture technician, sends this interesting graph to the editor together with the accompanying caption.



The attached diagram is of a thermostat which every small shop or earnest amateur should have, now that the cold weather is here. The cost of making this instrument is about one dollar, in Los Angeles. I have kept ten gallons of developer at a constant temperature of plus or minus less than one-half of one degree for many days and at very small cost by the use of this thermostat. It is connected to a 25 watt carbon electric light globe which is situated in an insulated box under the developer tank. After the temperature has been established the light burns only a few seconds at a time as the thermostat shuts it off promptly and controls it absolutely.

provided in the back of the blimp to allow the cameraman to watch the action through the camera finder during the take.  
(To Be Continued in January)

To our advertisers and subscribers THE INTERNATIONAL PHOTOGRAPHER extends compliments of the season with sincerest good wishes for the merriest of Christmases and the happiest and most prosperous of New Years.

# MAX FACTOR'S MAKE-UP

**MAX FACTOR MAKE-UP STUDIOS  
HOLLYWOOD CALIFORNIA**

**Used in 96%  
of the studios  
of the world**

# THE NEWSREEL WORLD

By RAY FERNSTROM, *Svensk Filmindustri*  
(Swedish Film Industry)



IN my return from Sweden I found my desk heaped high with interesting and sad news of you newsreel birds.

All the way from Stockholm, Sweden to Southern California, I read accounts of trouble in Cuba. Then lo and behold if there wasn't some personal news, OKEECHOBEE JOE GIBSON had been shot. Standing in the thick of the fighting down there in Havana, Joe's legs caught a row of four machine bullets as he cranked his Akeley for Universal.

Tough luck Joe and tougher still when we think that you had to lose the very film you almost gave your life to get. Such is the reward of newsreeling. The greatest efforts oft bring the emptiest rewards. But who looks for any reward in news-shooting? I've never known, nor do I ever expect to find, a real newsreel cameraman that wasn't and isn't always broke. It must be the game. They stick till death and the reward is merely the thrill of being there, of being in the game, of being IN THE PLAY, whether it is a crap game or the blowup of a whole nation by gunfire.

That's where Joe got his, but with the proverbial newsreel luck he came through with only four bullet holes in those willing legs of his and I'll bet Joe would have gone back the next day and done the same thing. Nor was he alone, for there were others—Al Mingalone, from Paramount; Hugo Johnson (Swede), Paramount; Jimmy Pergola, Pathé; little ole Jimmy; Dave Oliver, Universal; Ferdi Delgado. Well Joe here's a toast to you, SKOAL sure glad you are still with us.

By way of contrast, here is good news from China. Mrs. Allyn Alexander has just presented Al with a bouncing baby boy, Prentice Pace Alexander. "Here's looking at you," Allyn and Lucille, congratulations and "bottoms up." And here's to you Prent "SKOAL" may you never be bitten with the newsreel bug.

Sorry to hear about good ole Hi Lutz. Herman is confined to his bed in the Bellevue Hospital, New York. That great big healthy specimen stuck to his crank until he landed in the hospital and he's been there ever since. The ole Akeley's with frost in our nostrils, but heat in the

Remember our trip to Niagara, Hi? And that time we busted in on Bob's EXCLUSIVE story? And those stories at Lake Placid? We'll be back there together again Hi before long, setting up on the ice and cranking



Joseph Gibson lines up his Akeley camera alongside of the Cuban Revolutionists' machine guns. He was shot four times in the legs.

stomach and a smile on the mug. Hurry up and get well pal, and I'll set up a few, for old times' sake. Drop us a line Hi, and as for you other mugs, if you don't write Hi you are a bunch of bums. Let him know we are with him in spirit wherever we are or may be assigned. Let's go.

And that goes for you penguins too. Two of our birds are heading for down under, with Admiral Byrd. John Herrmann and Carl Peterson. I know Herrmann and he'll tell us all about it when he comes back, but I don't know Peterson, darn the luck (DID YOU NOTE THAT NAME?) a Swede, and I don't know the guy!

Well that makes the trip a success, with Carl along. Good luck fellers—and drop us a line sometime.

And here follows a story about my old side kick and buddy Henry DeSiena. I'm glad John Beecroft wrote it, Henry, for I'm afraid I, with my humble ability could not do full justice to one of the best pals and truest old timers in the game.

## SHOOTING CELEBRITIES

By JOHN BEECROFT

One day it's a king, the next day a bum. There is  
(Turn to Page 27)



Six Months of Actual Studio Use Has Proven

## "ArtReeves" Automatic Speed Control Motor

One of the most important contributions to successful sound recording during the past year.



Phone: WYoming 4501



## Mitchell Silent Model Is Winning Its Way

Producers of motion pictures are manifesting considerable interest in the silent model of the Mitchell Camera. This camera was first announced a year ago and after considerable testing on actual production the producers have conceded that this particular type of camera deserved their attention.

During the past year several pictures have been made where this camera was used. These pictures were produced by the Metro-Goldwyn-Mayer Studios and the Hal



Detail view of the new type silent Mitchell movement.

Roach Studios. During the production of these pictures there were many instances where it was possible to get shots with this camera which would have been impossible had it been necessary to use a blimp, on account of insufficient room to work, and it is understood that the camera performed in a satisfactory manner.

When this camera was built, the Mitchell Camera Company did not claim that they had a perfectly silent camera. At that time Mr. J. D. McCall stated:

"We prefer to let the camera speak for itself; while we know that the camera is quiet we do not advance it as a one hundred per cent noiseless camera which all of us hope to see some day. We feel, however, that it is an appreciable advance over existing apparatus; it achieves a very satisfactory degree of silence in operation, without the sacrifice of any of the features of convenience, precision or durability for which the name

Mitchell has always stood. It is a camera designed especially for sound-film use and for conditions existing in the industry today—conditions which require faster, more reliable operation than ever before."

In spite of the somewhat pessimistic attitude of Mr. McCall the camera has proved in actual production to be a very satisfactory instrument. Fundamentally the camera is somewhat similar to the standard model, which is familiar to every cameraman. It has a four lens turret, a hand operated dissolve, visible shutter opening indicator, a new type silent movement of the compensating link type, an illustration of which appears with this article, silent gears and a built-in motor especially constructed to specifications for quietness—and many other features too numerous to mention. The only feature which the previous model had that has been eliminated is the floating iris. One of the studios is now using this camera equipped with the standard Erpi motor.

The weight of this model is the same as the previous standard model, which is an important feature with companies who like to make anywhere from fifty to one hundred and fifty set-ups a day. In addition to the Hollywood studios who are now using this model, studios in India and England have already received delivery of theirs and they are now in use.

At the present writing, the Mitchell Company is busily engaged in manufacturing another lot to meet the steadily rising demand.

### CONTROLLED REFLECTION

Helio-lite, a new product of the laboratory, offers a highly selective light reflection. The purposes of Helio-lite are to intensify the reflection of visible light, reduce its temperature, soften shadows and to enable the cameraman to control color influence at will.

Ultra-violet can be intensified or eliminated.

Tests now being made under the direction of Lewis Physioc, of Western Film Laboratories, indicate that Helio-lite reflectors of sunlight are likely to solve many of the present day problems of cameramen.

Since the introduction of Panchromatic film, the ultra-violet has proven a stubborn influence to overcome. This is especially true in high altitudes filming snow scenes or in any other condition where especially clear atmosphere prevails. One type of Helio-lite reflector aims at eradicating this ultra-violet influence. In another field where opposite fluorescent effects are desired in color photography, an ultra-violet type of Helio-lite reflector will undoubtedly add to the range of possible effects. Spot lighting is an important phase of another type.

Helio-lite is not an accident, but is the development of research and experimentation over a period of years

(Turn to Page 31)

## Christmas Gifts of Automobile Accessories Show Rare Discrimination



WALT



# Muller Bros.



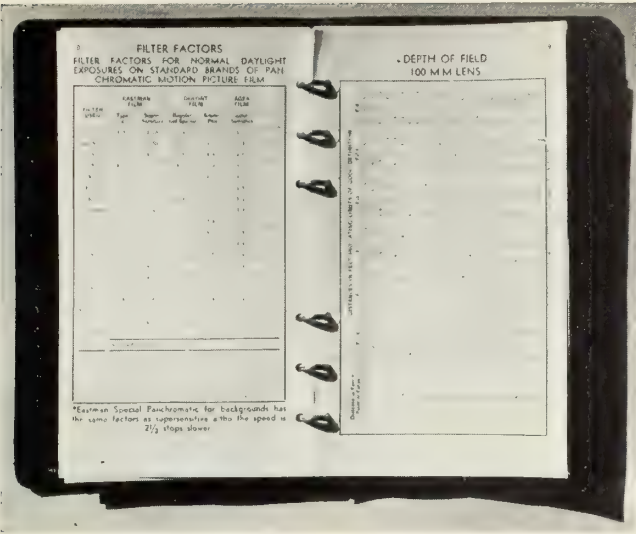
FRANK

Distributors for Philco Transitone Radios  
"WORLD'S GREATEST SERVICE STATION"

6380 Sunset Boulevard,

Near Cahuenga,

Hollywood



This is the eighth installment of the Cinematographer's Book of Tables compiled and computed by Mr. Fred Westerberg, one of the technical editors of THE INTERNATIONAL PHOTOGRAPHER.

# Cinematographer's

# BOOK of

# TABLES

By FRED WESTERBERG

There are several more installments to come probably concluding with the April issue, 1934, and when completed the tables will constitute a handy reference guide welcome to all cinematographers, professional and amateur.

Take note that the tables are so placed in the magazine as to be easily cut out and bound into a small pocket ring book. Cut down the middle of page 25; then trim top and bottom to fit your cover; punch holes to fit rings on inner and outer edges of magazine pages 25 and 26. When all tables have been bound into your ring book the pages will number from 1 to 32 inclusive with complete index unless others are added, which seems very likely at this mailing.

## EQUIVALENT MAGNIFICATION

DISTANCES TO OBJECT REQUIRED FOR VARIOUS LENSES  
IN ORDER TO PRODUCE IMAGES OF EQUAL SIZE  
ON THE FILM

Magni- fication In Diameters	DISTANCE IN FEET FROM LENS TO OBJECT								
	20 mm. Lens	25 mm. Lens	35 mm. Lens	40 mm. Lens	50 mm. Lens	75 mm. Lens	100 mm. Lens	125 mm. Lens	150 mm. Lens
.500	.2	.25	.35	.40	.5	.75	1.0	1.25	1.5
.100	.4	.5	.7	.8	1.0	1.5	2.0	2.5	3.0
	.8	1.0	1.4	1.6	2.0	3.0	4.0	5.0	6.0
.050	1.2	1.5	2.1	2.4	3.0	4.5	6.0	7.5	9.0
	1.6	2.0	2.8	3.2	4.0	6.0	8.0	10.0	12.0
.032	2.0	2.5	3.5	4.0	5.0	7.5	10.0	12.5	15.0
	2.4	3.0	4.2	4.8	6.0	9.0	12.0	15.0	18.0
	2.8	3.5	4.9	5.6	7.0	10.5	14.0	17.5	21.0
.020	3.2	4.0	5.6	6.4	8.0	12.0	16.0	20.0	24.0
	3.6	4.5	6.3	7.2	9.0	13.5	18.0	22.5	27.0
.016	4.0	5.0	7.0	8.0	10.0	15.0	20.0	25.0	30.0
	4.4	5.5	7.7	8.8	11.0	16.5	22.0	27.5	33.0
	4.8	6.0	8.4	9.6	12.0	18.0	24.0	30.0	36.0
.012	5.2	6.5	9.1	10.4	13.0	19.5	26.0	32.5	39.0
	5.6	7.0	9.8	11.2	14.0	21.0	28.0	35.0	42.0
	6.0	7.5	10.5	12.0	15.0	22.5	30.0	37.5	45.0
.010	6.4	8.0	11.2	12.8	16.0	24.0	32.0	40.0	48.0
	6.8	8.5	11.9	13.6	17.0	25.5	34.0	42.5	51.0
	7.2	9.0	12.6	14.4	18.0	27.0	36.0	45.0	54.0
.008	7.6	9.5	13.3	15.2	19.0	28.5	38.0	47.5	57.0
	8.0	10.0	14.0	16.0	20.0	30.0	40.0	50.0	60.0
	8.8	11.0	15.4	17.6	22.0	33.0	44.0	55.0	66.0
	9.6	12.0	16.8	19.2	24.0	36.0	48.0	60.0	72.0
.006	10.4	13.0	18.2	20.8	26.0	39.0	52.0	65.0	78.0
	11.2	14.0	19.6	22.4	28.0	42.0	56.0	70.0	84.0
.005	12.0	15.0	21.0	24.0	30.0	45.0	60.0	75.0	90.0
	12.8	16.0	22.4	25.6	32.0	48.0	64.0	80.0	96.0
	13.6	17.0	23.8	27.2	34.0	51.0	68.0	85.0	102
	14.4	18.0	25.2	28.8	36.0	54.0	72.0	90.0	108
	15.2	19.0	26.6	30.4	38.0	57.0	76.0	95.0	114
.004	16.0	20.0	28.0	32.0	40.0	60.0	80.0	100	120
	18.0	22.5	31.5	36.0	45.0	67.5	90.0	113	135
	20.0	25.0	35.0	40.0	50.0	75.0	100	125	150
.003	24.0	30.0	42.0	48.0	60.0	90.0	120	150	180
	28.0	35.0	49.0	56.0	70.0	105	140	175	210
.002	32.0	40.0	56.0	64.0	80.0	120	160	200	240
	36.0	45.0	63.0	72.0	90.0	135	180	225	270
.0016	40.0	50.0	70.0	80.0	100.0	150	200	250	300

## 12-C

## 22-B

## SENSITOMETRY

## CONVERSION TABLE (Continued)

DENSITY = LOG  $\frac{1}{\text{TRANSMISSION}}$  = LOG OPACITY

Opacity	331	347	363	380	398	417	437	457	479	501	525	550	576	603	631	661	692	725	759	794	832	871	912	955	1000
Trans- mission	.0030	.0029	.0028	.0026	.0025	.0024	.0023	.0022	.0021	.0020	.0019	.0018	.0017	.0017	.0016	.0015	.0014	.0014	.0013	.0013	.0012	.0012	.0011	.0010	.0010
Density	2.52	2.54	2.56	2.58	2.60	2.62	2.64	2.66	2.68	2.70	2.72	2.74	2.76	2.78	2.80	2.82	2.84	2.86	2.88	2.90	2.92	2.94	2.96	2.98	3.00

Opacity	105	110	115	120	125	131	138	145	151	158	166	174	182	191	200	209	218	229	240	251	263	275	288	302	316
Trans- mission	.0096	.0091	.0087	.0083	.0079	.0076	.0072	.0069	.0066	.0063	.0060	.0058	.0055	.0053	.0050	.0048	.0046	.0044	.0042	.0040	.0038	.0036	.0035	.0033	.0032
Density	2.02	2.04	2.06	2.08	2.10	2.12	2.14	2.16	2.18	2.20	2.22	2.24	2.26	2.28	2.30	2.32	2.34	2.36	2.38	2.40	2.42	2.44	2.46	2.48	2.50

Opacity	33.1	34.7	36.3	38.0	39.8	41.7	43.7	45.7	47.9	50.1	52.5	55.0	57.6	60.3	63.1	66.1	69.2	72.5	75.9	79.4	83.2	87.1	91.2	95.5	100.0
Trans- mission	.0302	.0288	.0275	.0263	.0251	.0240	.0229	.0219	.0209	.0200	.0191	.0182	.0174	.0166	.0158	.0151	.0144	.0138	.0132	.0126	.0120	.0115	.0110	.0105	.0100
Density	1.52	1.54	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82	1.84	1.86	1.88	1.90	1.92	1.94	1.96	1.98	2.00



## THE CAMERA IN THE EVERGLADES

(Continued from Page 15)

removed according to the custom rite of widowhood. She has just returned from the four day burial ritual. Alone she had paddled the hand hewn canoe carrying the corpse of her beloved to a grave hidden deep in the fastness of the Everglades. His bier is a couch fashioned of twigs and grasses elevated on four poles above ground, canopied with saw grass interlaced like the thatching of a roof, and like the ancient Egyptians all the belongings of the dead brave used in his daily life on earth are placed by his side.

There in silent loneliness the widow built a fire at his head . . . a fire of mangrove root that this flame should light the trail to the Happy Hunting Grounds.

For four days and four nights she tended this sacred fire, dreaming dreams of the brave buck who brought to the cooking pots an abundance of wild turkey and deer . . . fearless of the lurking dangers of saurian infested swamps and the death-dealing lunge of the cougar.

Brave was this husband that she mourns silently in true Indian fashion . . . no emotion playing across her bronze features. Brave, also, is this young potential perpetrator of a fast vanishing race.

If in the course of time her mourning becomes less acute, she can again don the heavy coils of beads and coif the loosed tresses to symbolize to the men of the tribe that she is willing to mate again.

The unsung saga of the Seminole holds many a legend of tragedy and romance . . . interesting in any language.

LIGHT REFORM PENDING

(Continued from Page 16)

convergent or divergent, intensity is always created independently on each molecule of matter and since all known light sources are larger than the molecule the rays have to converge to illuminate it. If there are enough molecules in an illuminated surface to make it larger than the light source, then the general play of rays will of course be divergent, but the illumination of each independent molecule by the rays which converge upon it has not been altered in the least. The molecule is the natural illuminated unit because it is the smallest independent thing of which all other things are made.

I hope that the educator who may read this article will not decide that I am simply contending that photography be taught in all schools. The matter is much more important than that. My contention is that the simple truth by which all actual light sources function in nature be taught in all physics books with the value tables included even in the common school arithmetic. If this be done then photography will be understood along with all the other uses of light.

If he uses a camera of any kind a subscription to THE INTERNATIONAL PHOTOGRAPHER will be his most acceptable gift.

## SENSITOMETRY CONVERSION TABLE

22-A

$$\text{DENSITY} = \text{LOG} \frac{1}{\text{TRANSMISSION}} = \text{LOG OPACITY}$$

Density	Trans- mission	Opacity
.02	.955	1.05
.04	.912	1.10
.06	.871	1.15
.08	.832	1.20
.10	.794	1.25
.12	.759	1.31
.14	.725	1.38
.16	.692	1.45
.18	.661	1.51
.20	.631	1.58
.22	.602	1.66
.24	.575	1.74
.26	.549	1.82
.28	.525	1.91
.30	.501	2.00
.32	.478	2.09
.34	.457	2.18
.36	.436	2.29
.38	.417	2.40
.40	.398	2.51
.42	.380	2.63
.44	.363	2.75
.46	.347	2.88
.48	.331	3.02
.50	.316	3.16

Density	Trans- mission	Opacity
.52	.302	3.31
.54	.288	3.47
.56	.275	3.63
.58	.263	3.80
.60	.251	3.98
.62	.240	4.17
.64	.229	4.37
.66	.219	4.57
.68	.209	4.79
.70	.200	5.01
.72	.191	5.25
.74	.182	5.50
.76	.174	5.76
.78	.166	6.03
.80	.158	6.31
.82	.151	6.61
.84	.144	6.92
.86	.138	7.25
.88	.132	7.59
.90	.126	7.94
.92	.120	8.32
.94	.115	8.71
.96	.110	9.12
.98	.105	9.55
1.00	.100	10.00

Density	Trans- mission	Opacity
1.02	.096	10.5
1.04	.091	11.0
1.06	.087	11.5
1.08	.083	12.0
1.10	.079	12.5
1.12	.076	13.1
1.14	.072	13.8
1.16	.069	14.5
1.18	.066	15.1
1.20	.063	15.8
1.22	.060	16.6
1.24	.058	17.4
1.26	.055	18.2
1.28	.053	19.1
1.30	.050	20.0
1.32	.048	20.9
1.34	.046	21.8
1.36	.044	22.9
1.38	.042	24.0
1.40	.040	25.1
1.42	.038	26.3
1.44	.036	27.5
1.46	.035	28.8
1.48	.033	30.2
1.50	.032	31.6

## SUPPLEMENTARY LENSES

16 mm. FILM

## DATA ON THE USE OF VARIOUS SUPPLEMENTARY LENSES IN PHOTOGRAPHING OBJECTS AT CLOSE RANGE WITH CAMERAS OF THE FIXED FOCUS TYPE

## 20 mm. CAMERA LENS

Supplementary Lens		Distance To Object In Inches	Magnification In Diameters	Width of Field In Inches	Total Depth of Field In Inches	
Rating In Diopters	Focal Length In Inches				F-4	F-8
+1	40	40	.02	19	50	INF
+2	20	20	.04	9½	9½	24
+3	13	13	.06	6¾	5	11
+4	10	10	.08	4¾	2½	5
+5	8	8	.10	3¾	1¾	3½
+6½	6	6	.13	2¾	1	2
+10	4	4	.20	1½	½	1

25 mm. CAMERA LENS

Supplementary Lens		Distance To Object In Inches	Magnification In Diameters	Width of Field In Inches	Total Depth of Field In Inches	
Rating In Diopters	Focal Length In Inches				F-4	F-8
+1	40	40	.025	15	30	94
+2	20	20	.05	7½	6½	14
+3	13	13	.08	5	3	6
+4	10	10	.10	3¾	1½	3
+5	8	8	.125	3	1	2
+6½	6	6	.166	2¼	½	1
+10	4	4	.25	1½	¼	½

## NEWSREEL WORLD

(Continued from Page 23)

no such thing as deadly monotony in the life of a cameraman. At least that is what Henry DeSiena of the Paramount Newsreel staff says. Today a cameraman may dine with a president, a chief justice or a queen and tomorrow he is glad if he can grab a sandwich in a quick lunch joint.

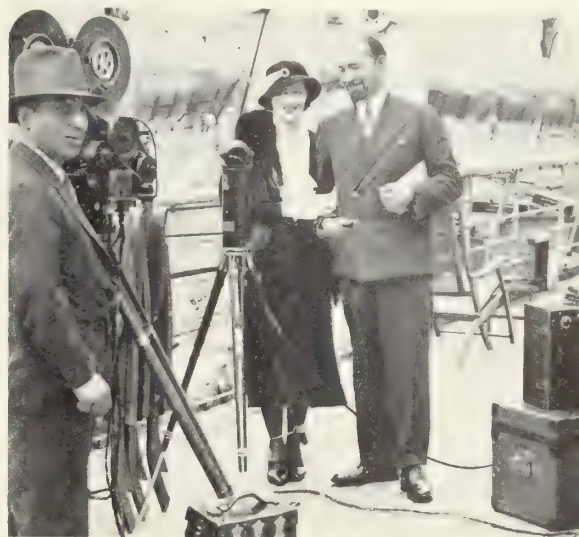
One day he is the honored guest of distinguished people who courteously put at his service every facility for making his job easy (and a cameraman's job is to get a picture)—the next day's job is done in spite of continuous threats and attempts to mob him and smash his camera and, maybe, ends with a police escort out of town and a clever smuggling out of his exposed film. The cameraman never knows what his next day's job will be and never can complain of the unending sameness of the days.

Of all cameramen Henry DeSiena is one of the busiest and best known. Almost since newsreels have been made DeSiena has been meeting the incoming celebrities as they enter the New York harbor. He has seen hundreds of sunrises from the unsteady deck of a cutter on his way out to quarantine to meet a transatlantic liner. Even the tug Macon hasn't met as many big names and strange people as DeSiena has in the course of his day's work.

Among the people he has met and photographed are: the Prince of Wales, General Diaz of Italy, Admiral Beatty of England, General Jaques of Belgium, Marshal Foch of France, Marshal Joffre of France—(these famed and feared military leaders smilingly stood where DeSiena told them to stand, and graciously took the postures DeSiena asked them to take—a performance that would have surprised any of the soldiers these generals command.)

Among the political leaders DeSiena has met are: Premier Briand, Georges Clemenceau, Lloyd George, the Crown Prince of Sweden, the King and Queen of the Belgians, Queen Marie of Roumania, Ramsey Macdonald, Herriott, Guido Jung of Italy, and more recently, Professor Moley and Secretary Hull. And among other notables have been Marconi, Einstein, the delegation of Cardinals who came over to attend the Eucharistic Congress and rode out to Chicago in the famous crimson train; Colonel Lindbergh has posed for DeSiena, so have Sir

Hubert Wilkins, Sir Thomas Lipton, Gertrude Ederle, George Bernard Shaw (DeSiena shot him when he was posing but got his best pictures when Shaw was just being G. Bernard Shaw.) That is the sort of acquaintances one can have if one is a Paramount cameraman.



Sir Hubert and Lady Wilkins posing for DeSiena on the explorer's ship.

Among these acquaintances there are friends and enemies. Clemenceau, the Tiger of France, was not exactly what one would call cordial. He objected vociferously to the cameras and ordered the cameraman off the train that was carrying him and them across the continent. But a good cameraman is not easily prevented from taking the pictures he has been assigned to get. When DeSiena was ordered off Clemenceau's train, he got off promptly; but he took a fast car to the next stop on the train's schedule, beat the train to that station, and when Clemenceau wasn't looking, got back on the train again. And why shouldn't he? It was an American train on which DeSiena had paid his fare, and Clemenceau, chances were, hadn't done that. Clemenceau, however, was a match for



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DeSiena. When the cameras were next set up Clemenceau knocked them over and hacked at them with his cane while making the air blue with choice French expressions.

But on another train trip DeSiena was better treated. It was the day after Coolidge had taken the oath of President of the United States in the sitting room of the little Vermont farmhouse and was hurrying to Washington to assume office. DeSiena was on the train carrying the new President to Washington. On this trip he had breakfast with Chief Justice Taft, President Coolidge and Mrs. Coolidge.

Queen Marie, too, DeSiena says, was very kind and thoughtful. She appeared to be very glad to have him with her when she started on her much ballyhooed tour of America. The queenly Marie treated him as an honored guest, made all provisions for his comfort and did all she could to help him get pictures that would make the reel and be shown to forty million Americans, to say nothing of the crowds of theatre goers in Europe, even in Marie's own capital, Bucharest.

In spite of breakfasts with presidents and teas with reigning and beautiful queens, DeSiena frequently has not been such a welcome figure in events that are attracting nation wide attention. On one Pennsylvania coal strike, DeSiena was shown a dummy hanging by its neck and was warned by the strikers that his neck would be in place of the dummy's in the noose if he didn't get out of town and let them run their strike without him. On another strike which had gone along quietly until DeSiena came to town, the police suspected him of fomenting a riot in order to get some action and incidentally some pictures, and gave him a police escort out of town.

Another time the strikers suspected him of working with the police and when DeSiena set up his camera on a roof overlooking a massed group of strikers, they mistook it for a machine gun and threw bricks and rocks at it. DeSiena has said there is little problem of how to keep fit. He gets plenty of exercise in a day's work. If it isn't climbing a Jacob's ladder hauling after him four hundred pounds of equipment, it's dodging rocks on a narrow parapet somewhere in the United States.

One incident in his career he very much regrets, and that was when he unwittingly complicated the Lindbergh kidnaper hunt. DeSiena had been at Hopewell several days before the kidnapping looking over the site with the

intention of making some shots. Not being familiar with the location he asked the way to the Lindbergh home from a girl in a lunchroom and from another girl he met on the road. Two days after he returned to New York the Lindbergh baby was kidnaped, and the girls remembered the "suspicious" looking man who had asked them the directions to the Lindbergh home. A description of DeSiena was sent to the New York police. A photograph of a man looking very much like DeSiena was found in the Rogues Gallery and DeSiena went to the police headquarters for questioning. It was with some difficulty that he, and Louis Cass, his sound technician, were cleared of all suspicion in connection with the kidnapers.

His trip with the Prince of Wales was pleasant, but more or less uneventful, though successful. He also toured America with the King and Queen of the Belgians and heard the mayor's wife make her much quoted remark when Queen Elizabeth commented on the magnificence of the Woolworth Building: "You sure said a mouthful, Queen."

Among the big celebrities DeSiena has known intimately is the Goddess of Liberty in the New York harbor. Someone had the idea of giving the lady a scrubbing and DeSiena thought it would be a good idea to take a picture of the event. It was a cold and windy day; some of the workmen were lowering a bucket of wash water; DeSiena was dangling like an ear ring from the goddess' left ear when the rope attached to the pail of water became entangled with the rope attached to DeSiena and a gust of wind gave DeSiena the bath intended for the goddess.

Every parade up Broadway has had in it, close to the car of the chief guest, DeSiena and his camera. He is well known to the Broadway welcome fans who call out their recognition as he passes in the parade. "There he is, the short guy"; "he always sweats that way," or, "yeh, he's always there—got something to do with the parade, I guess."

DeSiena has the essential requirements of a good cameraman—a nose for news and the ability to get the picture. His stuff is free of frills, just good, plain, solid pictures—the sort you want to see of an event of national importance. He has met a lot of people, seen lots of places, and had a good time while building his career as one of the world's first newsreel cameramen.

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## Television Football Record Set

The Editor

At 8:45 p. m., just three hours and forty-five minutes after the close of the Stanford-U. S. C. Trojan football game on Armistice Day, the Don Lee television transmitters, W6XS and W6XAO, were broadcasting scenes showing Stanford University's sensational 13 to 7 win.

This is believed to be the shortest time in which football scenes have ever reached the television screen, according to Harry R. Lubcke, Director of Television of the Don Lee Broadcasting System. So far as is known, a football game has not yet been televised directly. Thus, motion picture film is the only vehicle for television presentation of a scene of this nature. Paramount Newsreel made the rapid showing possible by dispatching the film to the station as soon as it came from the printing tanks.

That the Don Lee equipment handled this difficult subject in a satisfactory manner is evidenced by a letter from Mr. E. D. Erickson, who was invited to view the scenes by some friends at 1117 Venice Boulevard, Los Angeles, on equipment built by themselves. Mr. Erickson had never before seen a television image, but wrote as follows of the scenes that flashed before him:

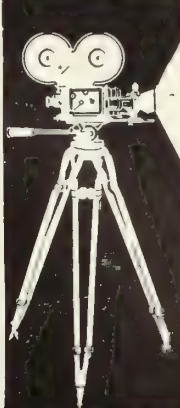
"Bleachers and crowd plainly seen—Panorama view of bleachers very clear—lines and goal post very clear—Follow players and see arms and legs clearly—Lining up and plays clear but could not distinguish players except by uniforms which made it possible to designate teams—Ball carrier and plays, also direction of plays clearly seen—Runner going towards goal post with others after him and make touchdown—could distinctly see the end lines—could see legs of runners plainly—then the line-up play and it was a kick—See the yell leaders in front of the grandstand very plainly—Another play, could see legs and arms but not very plainly—Could see referee, crouch, tackle and play distinctly—Long distance shot not good—Could see them spread out in the field, but could not see the ball—Side lines and stripes very distinct—Line men with tape very distinct. Announcing 8:49 p. m.

"The above was seen by me, and in my opinion the average person who knows nothing of football would be able to distinguish it as a football game; and to the man familiar, it was of interest and distinct, as above outlined."


(Signed) E. D. ERICKSON.

All the scenes, except that of the yell leader, were taken from the highest point in the stadium, in the usual newsreel manner. They were well taken and much credit is due Messrs. Joe Johnson, Koverman, and Kelly of Paramount News for their good work.

The Don Lee stations regularly broadcast Paramount features, Paramount trailers, and Pathé Newsreels nightly except Sunday from 7 to 9 p. m. and on Monday, Wednesday and Friday mornings from 9 to 11 a. m. W6XS operates on 2800 kilocycles (107 meters), simultaneously with W6XAO on 44,500 kilocycles (6¾ meters).



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## I NEVER SEE DEPARTMENT

(Back flow from Out-of-Focus, Page 32)

Dewey Wrigley without a cigar.  
Johnnie Mescal without knickers.  
Hal Mohr without a job.  
Fred Kaifer with a hat.  
Alvin Wyckoff without a brief case.  
Ed. Estabrook without his glasses.  
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## SOME ASPECTS OF THE MOTION PICTURE IN INTERNATIONAL UNDERSTANDING

(Continued from Page 7)

to thousands of people. A few titles further suggest the scope of information thus provided: After the government of Bolivia caused a series of films to be made depicting her various mining operations the Union obtained copies and provided for showing them in the United States.

In the same way the Brazilian coffee film, that of the banana industry, the Argentine cattle business, and other motion pictures were loaned to interested organizations in this country. Many popular travel films have likewise introduced the people of the United States to some of the marvelous sights in South and Central America. Conversely, the Union has been instrumental in obtaining industrial, scientific and sanitary films made in this country which have been widely displayed in Latin America.

The educational value and good understanding features of this work are far-reaching; they have developed in many people a desire to know more of the subject matter they have seen on the screen; they have intensified the desire of tourists to visit and personally see the wonders of Latin America.

During 1933 motion picture equipment manufactured in the United States was exported to more than fifty different countries of the world, says a report issued by the Department of Commerce. Shipments included standard and sub-standard outfits and they were destined to leading countries of Europe, Asia, Africa and the Americas as well as to New Zealand, Labrador, Siam, Iraq, French and British Oceania and elsewhere.

Of course, such equipment, including that for sound productions as well as for silent films, would be useless without the follow-up system of the regular motion picture films. And naturally the subject matter included almost every phase of activity that the great industry finds to depict. It seems safe in saying, therefore, that this vast activity in the single year above mentioned took entertainment and enlightenment to many millions of people.

The motion picture is as susceptible of creating wrong impressions and developing ill-feeling as it is of fostering friendly interest among peoples. To the Union of Nations at Washington has fallen the duty of seeking to correct inaccuracies or misrepresentations which have caused widespread criticism in the past.

## CONTROLLED REFLECTION

(Continued from Page 24)

by John Q. Roscoe. Mr. Roscoe has ample background for this work as a member of a family of authorities on light, notably among whom was Sir Henry E. Roscoe, LL.D., Fellow of Royal Society, author of "Spectrum Analysis," a recognized hand book of the Chemistry of Light.

Mr. Roscoe is the husband of Clover Roscoe and a brother-in-law of Malcolm Stuart Boylan, famous writers.

These developments are a further indication of the merging of the principles of chemistry and physics in their combined application to the techniques of the motion picture industry. When Helio-lite does these things commercially, we reduce heat, are kind to people's wrinkles and conserve and heighten the morale of artists working under strain.

Helio-lite is neither a metal nor a paint, but is a process evolved in Mr. Roscoe's search for a reflective agent which would have selective affinities for light. William A. (Gus) Inglis can be accredited with having induced him to apply his research in the realm of light to problems of motion picture photography.

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# Out of Focus



By OTTO PHOCUS

## SIR GUY SITTING



This outstanding view of wild animal life was photographed by P. P. Perry with a pith helmet and a pair of shorts and was exposed west of San Francisco (Ceylon). It depicts Guy Wilkie resting his hands and face and double crossing the monk.

Shortly after Guy's return from the Far East, we asked him if he had any unusual views of animal life in the tropics and he brought in the above picture. We asked him if he would suggest a title for it and he suggested, "Growth of Vegetation in the Tropics." This was considered a good title as it applies to the foreground as well as the background. Guy has grown a beautiful crop of vegetation on his lower chin and explained his reason for doing so as follows:

The nights were so dark it was impossible to see your nose in front of your face. At times this was embarrassing, especially when he and Perry had to bunk together. So-o-o-o, if Guy felt his chin and there were whiskers on it, he knew it was he; if there were no whiskers on his chin, then it was Perry.

We asked him if he did not have his feet too close to the camera and he explained that things are different in the Far East, and the effect was caused by having the camera too close to his feet. Also you will note that the sole on his right foot is worn more than the left. This was caused by always starting out with his right foot—an old army custom.

Guy wrote a very interesting article, "Care of Film in the Tropics," but we believe a story on "Care of Perry in the Tropics" would contain much valuable information for any of our readers that might contemplate a trip to the East Indies.

The monk was used throughout the picture, a Tom White Production—"Dus-Tu-Ran," and was brought back to Hollywood and can be seen at the Selig Zoo. Guy can be seen at the offices of the International Photographer.

## DO YOU KNOW—

That the Multicolor Lab will soon become a brewery.

That the two color process can be used there. Selling GREEN beer will put them in the RED.

That Henry Kruse is technical director for a Swedish film.

That Chuck Geissler told a couple of hungry kids to go into a restaurant and get something to eat. He would pay.

That he was handed a check for one dollar. He did.

That Willoughby's, New York, have increased their order for International Photographer over 100 per cent.

That when we get our liberty after December 5th, unless prices come down, the bootlegger will get the business.

That you can tell the employed from the unemployed, in the picture shows in Washington, from the amount of applause Hoover or Roosevelt receive when their pictures come on the screen.

That Walt Disney does not expect to make over \$25,000 in two years with his Three Little Pigs.

That he can't blame the high salaries of his actors for this.

That Paul Perry knows of a cafe in Hollywood that does not sell liquor.

That the Big Bad Wolf Cameraman on the cover reminds me of someone I know.

That Ray Fernstrom should have his fare refunded from the bus company after the article in the last issue.

That the best fish dinner I have had in ages was on the Santa Monica Pier. Bennett's. Yes, I paid for it.

That Phil Tannura asked 15 questions in the last article in connection with cameramen seeking work in Europe and forgot to ask—Can you photograph a production?

That a nudist picture was photographed recently and the camera crew had to work "in the nude." Can this come under paragraph 12: "Cameramen refusing to assume hazardous position will not jeopardize their working opportunities"?

That some of the cameramen are having 3-A trouble, and this is not a filter.

That I am not mad at anyone and wish all youse mugs a Merry Xmas and a Happy New Year.

## ALL ARMY ADMINISTRATION

The Motion Picture Code is being "rushed" to completion by GEN. Johnson, COL. Lea and SOL Rosenblatt. GEN. for General, COL. for Colonel and SOL for (ask any old soldier). But regardless the set-up is the same as in the army.

Rosenblatt is the private. He does all the work and then the officers tell him what is wrong with it.

## THIS YEAR? MAYBE!

Four years ago a notice was placed on the bulletin board of an independent studio to the effect that no bonuses or presents would be distributed at Xmas. They would, however, be forthcoming if it took until July to do it. They did not state which year and if we never get it we will always have it coming. This is the same studio that gave the employees a pair of socks and a goose last year.

# *Greeted With* **APPLAUSE**

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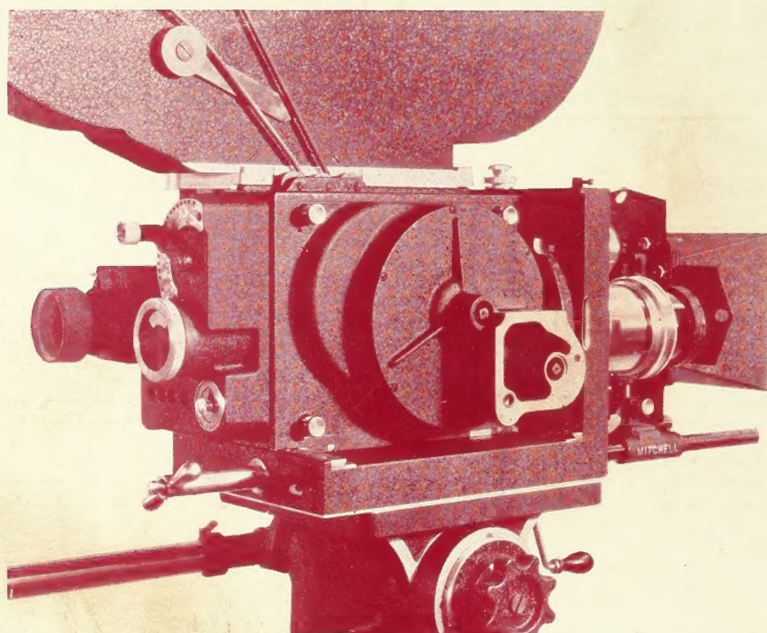
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